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The War Program

THE MEN'S APPAREL FIELD

(Following is the eighth in a series of articles prepared for the ARMY AND NAVY JOURNAL by leading officials in business and industry, telling of opportunities open for released service personnel.)

BY IRVING S. FLORSHEIM

President, The Florsheim Shoe Company

BEST proof of the fact that there is an opportunity for the returning veteran in the men's apparel field lies in the large number of discharged men who already have been placed in either the same or better positions than they had pre-war, and who are well on their way to working out a future for themselves both in manufacturing and retail distribution.

There are many reasons why the returned serviceman should find new interest in apparel. Prior to their entrance into the service, thousands of men lacked the opportunity to wear better shoes or clothing. Their wartime experience has taught them the value of quality. Just as an infantryman's rifle is his only protection against the enemy, so are his shoes and clothing safeguards against rain and cold, pain and discomfort during the trying conditions of warfare. In equipping our fighters for global warfare, an endeavor was made to provide the best—and all of it correct for the climate and conditions under which they were fighting. In desert or jungle, on mountain or coral beach, our soldiers, sailors, and marines learned for the first time the real importance of clothing and shoes.

There is a strong psychological reason, too, why service men should be attracted to the apparel field. Having been regimented as to dress for three or four years, it's natural they should be style-hungry—eager not only to own and wear new and different apparel, but also to become a part of their making and selling.

Already many of the larger manufacturers and retailers in the men's apparel and general merchandise fields have set up plans and policies for re-employment and rehabilitation of the returned veteran, and this is a wholesome indication that the job will be handled right, because the approach is right.

Stores must take a positive and individual approach to the veteran. It should be borne in mind that the overwhelming majority of these veterans are normal men, who want a chance to build a future for themselves. This fact is borne out by figures released by outstanding stores. Thus, out of 277 men returned to two well-known stores, only 5 are problem cases, and even these 5 all promise an early rehabilitation.

Each business should set up its own program to handle veterans. Procedures successful in the manufacturing end of a business, for example, might not work out at all successfully if applied to a retail store, a department store, or a specialty shop.

Where large numbers of men are concerned businesses should appoint a special veteran personnel director, to make a thorough analysis of the various jobs on hand and the qualifications necessary for each. The individual capabilities of each man should then be measured

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Greetings to Army and Navy Journal on its 82nd Birthday

General John J. Pershing, General of the Armies of the United States. "The completion of the Army and Navy Journal's eighty-second year of publication comes at a time when the United States is emerging victorious over its enemies on both sides of the world. The Journal has thus participated actively in another great war and begins again its vigilant watch that the Armed Forces shall be kept at adequate strength during the peace that follows. May its good work continue for many years."

The Hon. Henry L. Stimson, Secretary of War. "It is with a great deal of pleasure that I extend greetings and congratulations to the Army and Navy Journal upon the occasion of its eighty-second anniversary of publication. Please accept my best wishes to you and to your staff."

The Hon. James Forrestal, Secretary of the Navy. "It is a great pleasure for me, in behalf of the U. S. Navy, to offer congratulations to the Army and Navy Journal on its eighty-second birthday. I am sure the Journal can look forward to many more years as a leading forum of military opinion and a respected source of military reporting."

The Hon. Robert L. Patterson, Under Secretary of War. "It gives me great pleasure upon this date to mark the eighty-second anniversary of the Army and Navy Journal's publication. Please accept my congratulations to you and to your staff on this occasion."

General of the Army George C. Marshall, Chief of Staff. "Please accept my heartiest congratulations to you and your staff upon the occasion of the Army and Navy Journal's 82nd Anniversary of publication. I wish you continued success during the coming year."

General of the Army H. H. Arnold, Commanding General Army Air Forces. "On this 82nd anniversary of the Army and Navy Journal, I want to congratulate you and the members of your staff. You have my best wishes for many successful years in the future."

"The Journal continues to be an outstanding publication, its value well-measured by the deep interest of military personnel. The accurate and widespread reporting found in this periodical is a source of great satisfaction to the members of the armed forces. It affords them an intelligent and graphic account of events throughout the world, and we all hope that each year will bring added achievements to your organization so that we may continue to benefit from the pertinent and worth-while news items so admirably presented."

General A. A. Vandegrift, Commandant, United States Marine Corps. "The Army and Navy Journal has reason indeed to be proud of its 82 years of service to the men of the Nation's Armed Forces. I should like to extend hearty congratulations on this 82nd anniversary and wish the Journal many more years of well earned success."

Admiral R. R. Waesche, Commandant, US Coast Guard. "On behalf of the officers and men of the United States Coast Guard, I wish to congratulate the editors of the Army and Navy Journal on its 82nd anniversary. To military men everywhere the Army and Navy Journal is known for its excellent news coverage and integrity."

Would Improve Status
Of Enlisted Officers

Equitable treatment for former enlisted men who have served in the war as temporary commissioned or warrant officers will be sought by the War Department, Under Secretary of War Patterson has informed Senator O'Mahoney (D. Wyo.).

Interested in the facts concerning the plight of these officers, as set forth in an editorial in the ARMY AND NAVY JOURNAL of 14 July, Senator O'Mahoney asked Judge Patterson as to their future status.

Under Secretary Patterson said that he is in agreement with many of the points raised in the ARMY AND NAVY JOURNAL editorial, but that without corrective legislation, "which we will seek," the Department is unable to change its regulations.

The ARMY AND NAVY JOURNAL editorial, to which the Senator and the Under Secretary referred, protested the decisions under which former enlisted men now serving as temporary officers and who desire to return to their previous status in the Regular Army after the war are deprived of both the mustering-out pay and the reenlistment allowance. The JOURNAL also urged better promotion and retirement status for these men and that opportunity be offered to them to retain their commissioned status in the expanded post-war Army.

In a letter to Col. John Callan
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Enlistments in Regular Army

The Army this week issued instructions covering enlistments and reenlistments in the Regular Army as the first step in reconstituting the permanent post-war establishment.

In issuing the orders the Department made it clear that it does not intend to pay mustering-out pay to those men who accept discharges for the purpose of reenlisting in the Regular Army.

"Personnel discharged and enlisted or reenlisted pursuant to this circular," the Department said, "are not entitled to mustering-out payments at this time. Upon subsequent and complete separation from the service, mustering-out payments will be dependent upon statutes in effect at the time of final separation."

This policy would virtually deprive old regulars of ever receiving the mustering-out payments, for most of those now planning to reenlist have service dating back before the war and intend to remain in until their retirement. The law does not permit payment of mustering-out pay to those passing to the retired list.

Inquiry at the Navy this week revealed that under present circumstances Regular Navy personnel are not being given regular discharges, but only temporary discharges for the purpose of reenlistments. However, when the war is officially over, they stated, there will be nothing to prevent Regular Navy enlisted men from taking their discharge, drawing mustering-out pay and then reenlisting

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Navy Seeks Officers
For Regular Service

Although no final appointments can be made until enabling legislation has been acted upon, the Navy is planning to commission up to 30,000 Reserves in the Regular establishment and the Marine Corps up to five thousand Reserve officers for regular service.

All commands have been directed to urge interested Reserve Officers to submit their applications in order that they may be processed and considered, so that in the event that Congress acts, appointments can be made as quickly as possible.

According to the Navy Department the substance of the plan for transfer is that the Reserves selected will be on equal footing with their contemporaries now in the Regular Service. In addition it is intended that there will be equal opportunity for promotion and assignment with complete disregard of the fact that some graduated from the Naval Academy and some did not.

To assure that this can be done, the Navy said, those officers transferred to the Regular Navy in the ranks of Ensign, or above, will be given a course of instruction which will give them opportunity to progress on equal terms with Officers now holding permanent commissions.

In addition the Navy Department will request legislation which will permit the retention on active duty of a number of older Reserve Officers in senior ranks in order that the Naval Service may avail itself of their particular abilities and experience.

Complete text of the ALNAV setting forth the Navy's plan is as follows:

The Reserve Officers in the service who have played so major a part in the winning of the war know that the Navy hopes many of them will want to continue in the service. It now appears that the Navy will need up to thirty thousand new Regular Officers appointed from the present reserve and that the Marine Corps will need up to five thousand such Officers. Ours must be the finest military organization upon which the country could rely to safeguard the peace.

No final appointments can be made until the requested legislation is enacted, but the Navy now makes known its plans for transfer. All commands are directed to urge interested Reserve Officers to submit their applications in order that they may be processed and considered. Early appointments can then be made if the necessary legislation passes Congress. The substance of the plan for transfer is that the Reserves selected will be on equal footing with their contemporaries now in the Regular Service, that there will be equal opportunity for promotion and assignment with complete disregard of the fact that some graduated from the Naval Academy and some did not. To assure that this can be done, those Officers transferred to the Regular Navy in the ranks of Ensign, or above, will be given a course of instruction which will give them an opportunity to progress on equal terms with Officers now holding permanent commissions. Transferred Marine Corps Officers will be given the same opportunity to attend Service Schools. As soon as military conditions permit, all officers recommended for transfer who have not had recent home leave will be granted leave. As soon as practicable, officers will be rotated between sea and shore duty, with preference for shore duty being given to those officers with the longest sea or foreign service. More detailed terms of the proposed transfer are as follows:

(1) Age restrictions generally will require
(Please turn to page 1593)

War's End Problems

Washington Post—"Complaints that veterans of the war in Europe are being sent to Japan for occupation duty seem to be growing. Telegraph protests have reached a number of newspapers from men of the Eighty-sixth and Ninety-fifth Divisions. The general policy laid down by the War Department as to the demobilization and reassignment of troops seems to us to be wholly sound."

New York Times—"It would be well to pay heed to the warnings which Gen. H. H. Arnold has underscored in the last few days. They come with all the more force since we have been able to take stock of the damage wrought by airpower in Nazi-held Europe, and find that the predictions of General Arnold,

which, in some quarters were held to be too optimistic before the event, have been more than justified."

San Francisco Chronicle—"The mere physical problem of getting surplus men in uniform back to this country and discharged is going to keep in the services for a long time hundreds of thousands, perhaps millions, of men more than needed for the occupation jobs. Under such circumstances, what earthly excuse can there be for inducting a single additional draftee?"

Richmond (Va.) News Leader—"Our task as an occupying force is not to see that Japan repents but that she is kept powerless to seek revenge."

Peoria (Ill.) Morning Star—"Not only must we control the Islands, but it is a necessity that we maintain them adequately."

New York Journal of Commerce—"Skilled workers who had been exempt because they worked in war plants are being drafted at the very time when they are most urgently needed to clear up reconversion bottlenecks."

Youngstown Vindicator—"We have not been the only nation working to develop such a bomb. We cannot keep it from potential enemies. They can turn it upon us and we shall have no right to protest."

Raleigh News and Observer—"Much of the expressed fear of another war is being whipped up by those who wish the Army and Navy to still have greater power than the civilian departments of the government. By necessity in war the military has been in the saddle. They do not want to get off their high horses and walk."

USMA Football

West Point, N. Y.—Opening the season against the Personnel Distribution Command, Army Air Forces, of Louisville, Ky., on 29 Sept., the United States Military Academy's football team will play nine major opponents this fall, according to an announcement made by Col. Lawrence "Biff" Jones, Graduate Manager of Athletics.

Undefeated National Collegiate Champions in 1944, the Cadets will play four games away from home, meeting Michigan and Notre Dame at Yankee Stadium, Duke at the Polo Grounds and the University of Pennsylvania at Franklin Field, Philadelphia. The site of the Army-Navy game is undetermined.

The schedule:

- 29 Sept.—Personnel Distribution Command, AAF.
- 6 Oct.—Wake Forest.
- 13 Oct.—Michigan at New York City.
- 20 Oct.—North Carolina Pre-Flight.
- 27 Oct.—Duke at New York City.
- 3 Nov.—Villanova.
- 10 Nov.—Notre Dame at New York City.
- 17 Nov.—Pennsylvania at Philadelphia.
- 1 Dec.—Navy (site undetermined).

USNA Football

Annapolis, Md.—Concomitant with the beginning of varsity practice sessions 20 Aug., Capt. C. O. Humphreys, USN, Director of Athletics at the U. S. Naval Academy, announced the composition of the football coaching staffs at Annapolis.

They follow: Varsity, Head Coach, Comdr. Oscar E. Hagberg, USN; Line Coach, Mr. E. E. "Rip" Miller; Backfield Coach, Mr. Keith Molesworth; Assistant Line Coach, Mr. Ray Swartz; End Coach, Lt. Edward Erdelatz; Assistant Backfield Coach, Lt. (jg) Charles Purvis.

Jayvees: Mr. Frank L. Foster and Comdr. Paul L. Woerner.

Plebes: Head Coach, Mr. John Wilson; Assistants, Lt. Comdr. E. S. Gillette, USN, Lt. E. W. Shellworth, USNR, and Lt. E. J. Mahoney, USNR, and Lt. Comdr. Howard P. Ady, jr., USN.

Of the officers who will assist Coach Wilson, Lt. Comdr. Gillette is in the Post Graduate School, Lt. Shellworth is in the Department of Ordnance and Gunnery, Lt. Mahoney is in the Department of English, History and Government, and Lt. Comdr. Ady is in the Department of Marine Engineering. All of these officers coach voluntarily on their own time, in addition to their regular duties.

Midshipman H. Richard Duden, jr., of Englewood, N. J., captain of the Naval Academy team, led a squad of more than 100 candidates for the varsity eleven on to the field 20 Aug., when Navy launched preparations for its 1945 campaign. Of the 1944 varsity squad of 50, exactly half returned, of whom 12 are lettermen.

Blessed with considerable strength in some positions, particularly the halfbacks and the guards, the Midshipmen are weak at other posts and there is a wide open scramble for practically every starting job. Off the Spring practice showing, it was believed that the Navy team would be weak in the line but strong in the backfield. Present indications, however, are that the acknowledged inadequacy of experienced linemen may be paralleled somewhat in two of the backfield billets—quarterback and fullback. At the former position there are no candidates with extensive "T" formation experience, while in the latter spot there are no play-

ers with Navy varsity experience behind Bob Jenkins. Comdr. Oscar E. Hagberg, Navy's Head Coach, is worried about the lack of experience at fullback and he has decided to move the team's captain, Dick Duden, to this post.

Duden was an outstanding block back in 1944 but in the T formation it appeared unlikely that he would play in the backfield. Up until a few days ago it looked as though he would be a candidate for end. It now seems that the end positions, where experienced players are conspicuously absent, are not quite as much in need of veterans as is the fullback post.

Plebes who will work with the varsity are: Bill Weir, of Kerrville, Tex.; Jim Beeler, of Jewell, Kan.; Peter Brett, of Alliance, Ohio; Scott Emerson, of Susanville, Calif.; Fred Grabowsky, of Paterson, N. J.; Bob Hunt, of Coronado, Calif.; Ken Knoien, of Sewickley, Pa.; Randett Lawrence, of Montheale, Tex.; Wallace Martin, of Bryson City, N. C.; Phil Shiekman, of Philadelphia, and Calhoun Killeen, of Pittsburgh, all linemen; Bob Kelly, of Flossmoor, Ill.; Bob Hoernschmeyer, of Cincinnati, Ohio; Tony Minisi, of Newark, N. J.; George Sundheim, of LaGrange, Ill.; Myron Gerber, of Arlington, Va., and George Walmsley, of Baytown, Tex., all backs.

Navy has approximately five weeks to prepare for its opening game with Villanova on 29 Sept. Since the Naval Academy is using the T formation for the first time this year, the early sessions were light workouts devoted in large measure to ball handling and practice on the intricacies of the newly adopted style of play.

Jap Fleet

The actual toll of American sea power against the once formidable Japanese Navy was given by Fleet Admiral Chester W. Nimitz from Guam this week.

According to information given to Admiral Nimitz by Japanese surrender envoys in Manila, the Japanese figures more than confirmed American estimates of damage done to Japan's fleet of 382 warships. They revealed that American reports had been too conservative. Rear Admiral Forrest P. Sherman, Deputy Chief of Staff for Admiral Nimitz and Navy representative at the Manila conference, said.

For battleships, the crewless Nagato, heavily damaged by carrier planes is still afloat at the Yokosuka naval base, but she is the only battleship remaining of 12.

The Hayataka, at the Sasebo naval base on Kyushu, and the Katsuragi, at Kure on the Inland sea, are both crewless and heavily damaged. They represent the remains of nine heavy carriers. There remain two light carriers, both mere hulls and crewless, of eight, and there are no light cruisers out of an original total of twenty-four.

In addition of the 165 destroyers, there remain but twenty-six, four of those being heavily damaged.

The Jap navy now boasts of but twenty-two submarines, including six U boats, out of an original 140.

The Japanese merchant fleet, once totaling more than 7,000,000 tons, had been reduced to 1,000,000 to 1,500,000 tons, counting all very small ships and a very few suitable for long voyages.

It is understood that Japan still has 5,800 naval aircraft, 4,000 of which were in operation.

BUY WAR BONDS

Civil Affairs for Jap Forces

With more than 2,000 Army and Navy Military Government Officers now ready to move into Japan with the occupation troops, all Army Civil Affairs Training Schools with the exception of the School at Charlottesville, Va., were closed by 21 Aug., following the graduation of 678 additional Military Government specialists.

Schools closed are at six universities throughout the Nation—Yale, Chicago, Michigan, Stanford, Northwestern and Harvard. They have been serving as post-graduate training institutions for the Army's School of Military Government at Charlottesville.

The officers being shipped to Japan to handle the Military Government duties have all been given intensive training since they were first hand-picked for the assignment. In order to qualify for training in Military Government, an officer had to be experienced in one or more specialized fields, including civil administration, public works and utilities, public safety, fiscal matters, economics, supply, public welfare, education, public relations, communications or law. Many had been public officials in civilian life.

During their basic training at Charlottesville, before they were sent to one of the six universities for advanced study, the officers received a two-month instruction in the methods and theories of occupation. Following that course, they rounded out their knowledge of the Japanese language and studied area and social characteristics for six months at the civilian universities.

Although the university classes are being ended, instruction will continue at the Charlottesville primary school. The Provost Marshal General, under whose supervision all of the schools are operated, has revealed that a class of 240 students currently is in training at Charlottesville and will complete the course on 15 Sept. From their basic training, members of the graduating class will be sent directly to staging areas and prepared for overseas shipment without additional training. An additional class of approximately 200 officers is now being recruited and will enter Charlottesville on 24 Sept.

A recent modification has been made in the curriculum at Charlottesville in order to familiarize the officers with the anticipated conditions in Japan. Instead of stressing instruction in combat phases of occupation, which was deemed essential when it was expected the Military Government personnel would have to land with the invasion forces, the instructors at the basic training area are giving detailed instruction in static occupation of a defeated nation.

Exchange Congratulations

High praise for the part played by forces under the command of each were expressed by Fleet Admiral Ernest J. King, USN, Commander in Chief, United States Fleet and Chief of Naval Operations, and Lt. Gen. Albert C. Wedemeyer, Commanding General, United States Army Forces in China, in an exchange of congratulatory messages.

Lieutenant General Wedemeyer's message to Fleet Admiral King follows in part:

"With the final defeat of Japan, the enemy's treachery at Pearl Harbor has been fully avenged. Japan risked and lost her Navy, her empire and her position as a world power. All Americans are justifiably proud of the ex-

ploits and achievements of the United States Navy.

"Beginning with the decisive battles of the Coral Sea in 1942, a pattern of continued and increasingly brilliant naval exploits was established, culminating in the annihilation of the Japanese Fleet in Philippine waters. With the liquidation of the enemy's Navy, the Japanese military might perforce fell apart.

"On behalf of the officers and men of the China theater I extend heartfelt congratulations and good wishes to all ranks in the Navy."

In reply, Fleet Admiral King messaged Lieutenant General Wedemeyer:

"In behalf of all naval personnel under my command I wish to express appreciation for your congratulations on the occasion of mutual victory over Japan. American Army operations in the China theater have been an essential factor in winning the war in the Pacific which was an all-hands job and was accomplished through teamwork on the part of all forces participating. I extend to you and to your command the congratulations and good wishes of the United States Navy."

Joint Chiefs of Staff

The abrupt close of World War II, may soon lend added impetus for action on pending legislation now before Congress to provide for the permanent establishment of the Joint Chiefs of Staff and joint secretariat.

Set up as a war measure, the Joint Chiefs of Staff have functioned with machine-like efficiency during the war years, and it is the thought by many military officials in Washington that it might remain on a permanent basis as a means of carrying on joint operations.

Last February H.R. 514 and 622 which would provide for such permanent status, were referred by the House Military Affairs Committee to the War Department for comment. At that time the Department informed the Committee that a special committee of the Joint Chiefs of Staff had been established to study the broad questions involved in the reorganization of the national defense. It was further revealed that the committee had made an extended trip to the major theaters of war where they conferred with the Army and Navy Commanders in order to obtain their views on the subject.

With the occupation of Axis countries of Europe an established fact and the occupation of Japan about to become a reality, an enlarged international combined Chiefs of Staff may be expected to carry on.

Commenting on the possibility of the continuation of such a staff, Senator Thomas, Utah, has stated that its appointment would be an administrative and not a legislative matter.

Gen. Leonard Leaves 9th Armored

With the Ninth Armored Division in Germany—Maj. Gen. John W. Leonard bade farewell 30 July to the 9th Armored Division, with which he won a place in history. Gen. Leonard, whose troops were first across the Rhine, boarded a plane for the United States and an undisclosed assignment.

Gen. Leonard uttered his feelings in a formal general order announcing his departure, saying that it had been "the greatest privilege, joy and honor" of his military life to command the 9th; he promised that he would never be "separated from his division in thought, spirit and memory."

Navy Separations

In addition to men and women who are being released under the Navy's Demobilization formula, personnel will still be separated by applications for release in cases of hardship or dependency and in cases of enlisted personnel age 42 or over, the Navy Department announced this week.

In announcing further details on its demobilization program, the Navy declared that approximately 327,000 personnel are immediately eligible for release under the Demobilization program. This number includes 261,000 enlisted men; 5,200 enlisted women; 40,000 male officers; 500 WAVE officers, and 20,000 combat award holders.

Separation processes for officers and enlisted men and women will be identical under the Navy's program. All are entitled to the same information and benefits with only minor variations as provided in the applicable laws.

At all separation centers two processes will go on simultaneously; one to close out Naval careers, and the other to give the individual every item of information which can aid in the transition from naval to civilian life.

Persons eligible for release who are stationed in the United States will be sent direct to Naval Personnel Separation Centers. Officers and men aboard ship in forward areas will either be sent to staging areas in the Pacific or direct to receiving stations in the United States.

Staging Areas

Staging areas in the Pacific are now located at Pearl Harbor, Guam, Saipan, Leyte, Hollandia, Manila, and Manus. Others are to be established where and when necessary.

Functioning in the forward area and in the United States as an integrated part of Demobilization is the Naval Civil Readjustment Program established 6 April, 1944, for the purpose of restoration and readjustment to civilian life of naval personnel being separated from active service.

Long before reaching the Separation Center, Navy searates will have had the opportunity to learn of their rights and benefits as veterans. In overseas areas or in the United States this information will be made available aboard ship or at shore station staging areas, through Civil Readjustment Information Officers and other officers operating under the Civil Readjustment Program.

These informational activities will be implemented by the use of motion pictures, posters, and pamphlets designed further to equip the individual with information which will aid in his readjustment to civilian life.

As personnel return to the United States, Civil Readjustment Information activities will continue in twenty-one receiving stations located in this country where the heaviest volume of traffic is expected in the initial stages of Navy Demobilization.

Theses receiving stations are located at Boston, Mass.; Casco Bay, Portland, Me.; Pier 92, New York City; Brooklyn, New York; Armed Guard Center, Brooklyn, N. Y.; Philadelphia, Pa.; Norfolk, Va.; Charleston, S. C.; Key West, Fla.; Miami, Fla.; Galveston, Texas; Chicago, Ill.; Terminal Island, San Pedro, Calif.; Bremerton, Wash.; Seattle, Wash.; Washington, D. C.; San Francisco, Calif.; Camp Elliott, San Diego, Calif.; Camp Shoemaker, Calif.; New Orleans, La.; and Farragut, Idaho.

From the receiving stations or shore activities in the United States personnel eligible for separation will go to Personnel Separation Centers located in the areas of largest Navy population.

Separation Centers for male enlisted personnel are located at Bainbridge, Md.; Boston, Mass.; Camp Wallace, Texas; Charleston, S. C.; Great Lakes, Ill.; Jacksonville, Fla.; Lido Beach, Long Island, New York; Los Angeles, Calif.; Memphis, Tenn.; Minneapolis, Minn.; New Orleans, La.; Norfolk, Va.; Norman, Okla.; St. Louis, Mo.; Sampson, N. Y.; San Francisco, Calif.; Seattle, Wash., and Toledo, Ohio.

Wave Separation Units are located at New York City; Chicago, Ill.; Memphis, Tenn.; San Francisco, Calif., and Washington, D. C.

Male officers will be separated at centers located in Boston, Mass.; New York

City; Philadelphia, Pa.; Norfolk, Va.; Los Angeles, Calif.; Seattle, Wash.; Washington, D. C.; Charleston, S. C.; Jacksonville, Fla.; New Orleans, La.; Memphis, Tenn.; Camp Wallace, Texas; Great Lakes, Ill.; and Camp Shoemaker, San Francisco, Calif.

Separation processes for officers and enlisted men and women will be identical. All are entitled to the same information and benefits with only minor variations as provided in the applicable laws.

At all centers two processes will go on simultaneously: one to close out Naval careers, and the other to give the individual every item of information which can aid in the transition from naval to civilian life.

USMA Superintendent

Maj. Gen. Maxwell D. Taylor, until recently Commanding General of the 101st Airborne Division, has been named Superintendent of the United States Military Academy at West Point, N. Y., effective 1 Sept. 1945, succeeding Maj. Gen. Francis B. Wilby, who is assuming an important assignment with the Corps of Engineers at Ft. Belvoir, Va., the War Department announced this week.

General Taylor is 44 years old. He led the 101st Airborne Division, the Eagle Division, in its first jump over the Normandy Beachhead on D-Day, and through 73 days of combat in the Nijmegen area in Holland. He was in Washington, D. C., on a special mission when the German forces staged their counterattack in the Ardennes sector in December, 1944. He flew from Washington to rejoin his division and rode into besieged Bastogne with the first armored relief spearhead.

Earlier in the war General Taylor slipped through German lines below Rome to personally discuss with Marshal Badoglio details of the then pending Italian surrender.

General Taylor was commissioned a second lieutenant in the Corps of Engineers upon graduation from the United States Military Academy at West Point in 1922. Three years later he was transferred to the Field Artillery.

From 1927 until 1932 he served on the faculty of the United States Military Academy as Professor of French and Spanish. From 1935 to 1939 he was language officer and Military Attache in both Japan and China. While in Japan he learned to read, write and speak Japanese and served a short tour of duty with the Imperial Guards' Artillery.

Francs for U. S. Soldiers

Under an agreement recently reached by the United States Treasury Department, the War Department, and the French Government, the latter will pay every member of the American Armed Forces stationed in France or in the country on leave 850 francs (\$17) each month. The arrangement becomes effective 31 August.

The official announcement reminds the men that the francs, which are known as "adjustment francs" will increase their purchasing power in France. The payment is described as a token of the most friendly relations between the French and American people. Text of the announcement follows:

"The first of these is a program of substantial price reductions for articles made in France on sale at Army Exchanges and for entertainment and refreshments at centers already opened or to be opened with French Government cooperation. These price reductions also apply to gifts purchased in French shops when exported to an address outside France by the soldier purchaser. Also, the Army Central Welfare Fund will benefit from a partial refund of the prices heretofore paid for local purchases in France by the Army Exchange Service. In order to acquaint members of the Armed Forces of the United States with the many places in France of historic and scenic interest, the French Government has arranged for conducted tours, at no cost to members of the Armed Forces of the United States, starting from the major leave or assembly areas.

"The French Government is also arranging to increase the purchasing power of the members of the Armed Forces of the United States in France. Under this arrangement the French Government will place at the disposal of the American Government a substantial number of francs for distribution to the members of the Armed Forces of the United States. These francs will be paid at the rate of 850 francs per month to members of the Armed Forces of the United States regularly stationed in France, and 850 francs will be paid to members of the Armed Forces of the United States

stationed outside France at the time of their entry into France on leave, on temporary duty or in transit during redeployment.

"The distribution of francs will go into effect at the end of August. All other features of the above program are already in operation in certain sections of France and are being actively expanded.

"The Secretary of Treasury Vinson, in accepting this arrangement, has expressed the appreciation of the United States Government for the friendly action taken by the French Government."

Retain High Ranks

"The seven five-star generals of the Army and Fleet Admirals would not have to go back to a reduced rank but would hold those ranks permanently "In recognition of their outstanding service," under a bill to be introduced by Chairman Elbert D. Thomas, of the Senate Military Affairs Committee, at the reopening of Congress.

Those suggested for permanent honors are Generals of the Army Marshall, MacArthur, Eisenhower and Arnold, and Fleet Admirals Leahy, Nimitz, and King.

"These officers should not have to go back to Major General or Rear Admiral," Senator Thomas said, "but should remain singled out for life in the highest military rank this nation can bestow."

Senator Thomas indicated that he has considerable top flight support for the proposal, and that from such conversations as he has had among his colleagues he feels there would be no dissent.

General of the Armies John J. Pershing, the only person to enjoy this rank with the plural title on the word "armies," was given life tenure of his wartime rank by an act of Congress, and retains the highest honor and respect of the nation and of its military establishment, Senator Thomas said.

The little halo-shaped cluster of stars would remain on the seven who possess them as a life guarantee, Senator Thomas said, and after retirement the customary pay and allowances for the highest rank held would be awarded, under his proposal.

Prisoners Liberated

From Chungking this week came word that Lt. Gen. Jonathan M. Wainwright, 61-year-old hero of Corregidor, together with four of the fliers who accompanied Lt. Gen. James H. Doolittle on the now famous raid over Tokyo in 1942, have been found by American parachute teams which dropped from the air on Japanese-occupied territory in China.

The parachute teams, sent by the Office of Strategic Services, liberated the four fliers, who had been charged with murder by the Japanese. Their names as released by the War Department this week are: 1st Lt. Chase J. Neilsen, 1st Lt. George Barr (hospitalized); Sgt. Jacob D. Deshazer, and 1st Lt. Robert L. Hite.

General Wainwright, who led the last grim stand in the Philippines in 1942, is being brought to Chungking and other American prisoners of war will be moved as rapidly as possible to port cities for return to the United States.

Lt. Col. James P. S. Devereux, commander of the marines who defended Wake Island, has also been reported safe in a Japanese Prison Camp near Peking, China, but this has not as yet been officially confirmed by the War Department.

Right to Retain State Office

Marking a change in public policy since the First World War, John C. Bacon, reports in a survey issued by the George Washington University at Washington, D. C., that although all states except Arizona prohibit double office holding, most states have enacted some legislation to save servicemen their state offices until their return from the war.

Mr. Bacon's report, prepared while he was a student at the George Washington University Law School, indicates that no legislation of this sort has as yet been found unconstitutional. This is a reversal from the prevailing practice of the First World War. Although the effect of court decisions to the present date is to preserve the office for the serviceman, these decisions are acceptable only where it is found that the incumbent's occupancy of the office is suspended with the right preserved to him to resume his duties upon honorable discharge from the service.

Major Pacific Islands

Following is a list of Japanese-held and United States held major islands in the Pacific Area, as of 18 Aug. 1945:

MARIANAS

U. S.	Jap
Agrihan	Agulpan
Alamagan	Pagan
Anatahan	
Asuncion	
Guam	
Maug	
Saipan	
Sarigan	
Tinian	

MARSHALLS

U. S.	Jap
Eniwetok	Jalut
Kwajalein	Malaelap
Majuro	Mille
	Narik
	Rota
	Taongi
	Wotje

CAROLINES

U. S.	Jap
(all in West Carolines)	(all West Carolines, except those marked (E) which are in the Eastern group)
Angaur	Arakabesan
Fais	Aurapushekaru
Kayangel	Babelthup
Ngeebus	El Malk
Pelelu	Koror
Ulithi	Kuop (E)
	Kusare (E)
	Lamotrek
	Lukunor (E)
	Malakal
	Merir
	Oroluk (E)
	Ponape (E)
	Pulap (E)
	Pulusuk (E)
	Puluwat (E)
	Satawan (E)
	Sonsorol
	Tobi
	Truk (E)
	Urukthapel
	Woleai
	Yap

NANSEI SHOTO

U. S.	Jap
Aguni	Akuseki
Ie	Amami O
Iheya	Haderuma
Kerama Retto	Iriomote
Kume	Ishigaki
Okinawa	Iwo
	Kakeroma
	Kikai
	Kita Daito
	Kodakara
	Kuchino
	Kuchinoyorabu
	Kuro
	Kusakaki
	Mage
	Minami Daito
	Miyako
	Nakano
	Okinoyoraba
	Okino Daito
	Shimoji
	Sukomobanare
	Swanose
	Takara
	Tanaga
	Tarawa
	Tokuno
	Tori
	Uke
	Yaku
	Yerabu
	Yonakuni
	Yoron

OGASAWARA

U. S.	Jap
Iwo	Ani
	Chichi
	Haha
	Kita Iwo
	Oto

GILBERTS

U. S.	Jap
Makin	Nauru
Tarawa	Ocean

IZU

U. S.	Jap
	Aoga
	Hachijo
	Maruba
	Kozu
	Mikura
	Miyake
	Nii
	O
	Tori

OTHER JAP ISLANDS

Marcus	Wake
Muko	

The open doors of an LST, symbolic of the gates which poured men and armor of the Seventh Army onto the beaches of the Riviera, will form the centerpiece of a huge twenty million franc memorial whose foundation stone was dedicated 15 Aug. at the west of San Raphael.

AAF Demobilization

Within one year the Army Air Forces will discharge more than one million four hundred thousand men, with a peak discharge rate of approximately 150,000 monthly, it was disclosed this week.

According to Maj. Gen. Fred L. Anderson, Assistant Chief of Air Staff, the present strength of the AAF is two million three hundred thousand. The plan calls for individual high score men overseas to be replaced by others of the same training who have low-point totals, and with volunteers.

In keeping with the new program, the General said, overseas shipments of personnel under orders to move out on 15 August were stripped of enlisted men with scores of more than seventy-five points, and of members of the Women's Army Corps with more than forty-three.

In future shipments, he said, enlisted men will be screened down below seventy-five points, and thirty-seven years of age in order not to cut any man's chances of early release from service and to avoid wasting shipping space in moving men who might soon be returned.

The General said the reduction below seventy-five points was based on the probable supply of men with still lower point scores. "It is our policy to recognize the factors of length of service, dependency, and combat," he said, "which determine the point scores, in all our duty assignments, as well as the need for men with specific skills. Naturally our post-war air force will include men in the United States as well as overseas, and those with the higher point scores will be the ones to draw assignments in the United States. Our plans include a system of rotation to go into effect as soon as overseas units have been reduced to their post-war strength. We contemplate four per cent rotation and one per cent attrition a month, which would place the overseas tour of duty at no more than two years."

The announcement set the critical age for release from the service at thirty-eight for enlisted men. "Those eligible for separation on high point scores are also subject to the requirement that their army specialty is not on a critical shortage list," the General pointed out. "In the case of enlisted men, these shortages are unlikely to affect the Air Forces, although some officers of the AAF are subject to retention because of them."

"In general, our order of release is, one, those desiring release in the order of their point scores. Two, those who wish to remain in the service but for whom there is no job . . . still in the order of point scores. Right now we are discharging those with more than eighty-five points who wish to be separated from the service, and those over thirty-eight years old. Among the officers, we are currently releasing those who wish to be relieved of active duty . . . those with critical point scores and higher . . . and certain pilots desiring separation, whose point scores are low. The release of these pilots reflects the same stoppage of supply among specially trained personnel as in the field of materiel contract cancellations."

Gen. Gilbert Named

Brig. Gen. Harold N. Gilbert, director of the Office of Dependency Benefits, has been temporarily assigned to the new Army recruiting program, according to an announcement made by the War Department this week.

Gen. Gilbert was named to head the new program to enlist 280,000 volunteers to serve three-year enlistments in the Regular Army.

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UNITED STATES ARMY

Temporary RA Promotions

The War Department has announced the following temporary promotions of Regular Army Officers:

Lt. Col. to Col.
D. D. Brannon, AC S. R. Hanmer, CE
W. M. Breckinridge, A. J. Heintz, AC
Inf. N. E. Poinier, FA
W. E. Buck, Jr., AC H. W. Robinson, Inf.
H. C. Dayton, TC S. J. Ryzek, CH, USA
J. T. Fitzwater, AC
R. P. Fulcher, AC E. H. Vernon, Inf.
H. P. Gard, CAC A. V. Walton, AC
C. D. Halsley, Inf. W. J. Worcester, AC

Maj. to Lt. Col.
H. Boyd, Jr., MC L. E. Symroski, AC

Capt. to Maj.
C. F. Betts, AC G. H. Ingham, AC
J. S. Grygiel, CE

1st Lt. to Capt.
W. H. Hume, AC M. K. Langberg, AC

2nd Lt. to 1st Lt.
H. M. Francis, Inf.

Flight Pay

The Comptroller General's Office this week handed down a decision pertaining to suspension from flying by reason of sickness or injury and the pay status of individuals under such circumstances. Text of the decision's synopsis is as follows:

Where, pursuant to paragraph 12 of Executive Order No. 8195, a suspension from flying by reason of sickness or injury incurred in line of duty is revoked within the three calendar months' period prescribed by paragraph 10 of said Executive order during which flight requirements may be made up, the right to aviation pay for the month of revocation and prior months is for determination under paragraph 10 as if the suspension had never been made; but if revocation occurs after expiration of the grace period, the right to aviation pay for any part of the period of suspension is lost.

Troops to Pacific

Denying that there will be a discontinuance of the shipping of Army troops to the Pacific, the War Department this week issued an announcement as follows:

"As a result of the publication of a news article originating in Paris to the effect that no more troops will be sent from the European Theater direct to the Pacific, an erroneous report has gained circulation that no more troops will be sent to the Pacific."

"This report is without foundation in fact. Units composed of low-point troops will be shipped to the Pacific as requested by General MacArthur in numbers sufficient to insure fulfillment of the occupation and demilitarization of Japan and to permit the return to this country for discharge of those soldiers with high point scores."

Mail to Prisoners

Effective at once mails destined for prisoners of war and civilian internees held by the Japanese will be dispatched from the United States to Manila by air, the War Department announced this week.

Under the new arrangement, it is contemplated that delivery of this mail to liberated prisoners of war and civilian internees will be made either at Manila or at other points through which they may pass enroute back to the United States.

Such mail the Army Postal Service said should be addressed in the following manner:

Name of Addressee
(Rank & Serial No. for military personnel)
Liberated Personnel Section
APO 501, c/o Postmaster,
San Francisco, California.

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Army and Navy Officers Uniforms and accessories.
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Hotel Robert Driscoll
Corpus Christi, Texas

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Warrant Officer Appointments

Maj. Gen. Edward F. Witsell, Acting the Adjutant General this week issued an amendment to part 703—Appointment of Commissioned officers, Warrant Officers and Chaplains. Full text of the amendment is as follows:

Appointment of Warrant Officers

Section 703.303 is amended by designating the first paragraph (a) and adding paragraph (b) as follows:

Section 703.303 Appointments. (a) * * * (b) If a successful applicant is serving on active duty as a commissioned officer in the Army of the United States at the time his name is reached on the eligible list for appointment as a warrant officer, junior grade, to fill an existing vacancy, such applicant, if found physically qualified at that time, will be tendered a selection letter advising him of his selection for appointment upon honorable termination of active duty as a commissioned officer. The recipient of a selection letter whose active service as a commissioned officer terminates honorably and who applies for such appointment within 6 months after the termination of his active commissioned service will, irrespective of physical disqualification incurred or having its inception while on active duty in line of duty, be given such appointment if a vacancy within the authorized allotment for warrant officers, junior grade, Regular Army, exists at the time he applies for such appointment. To insure the existence of such vacancies, a vacancy will be reserved for the recipient of each selection letter until he applies for such appointment or notifies The Adjutant General of his intention not to enter such application, but not longer than 6 months after the termination of his active commissioned service. The date of rank upon appointment is the date of the selection letter.

Status of Promotion

Promotions and Vacancies on the Promotion List (Cumulative) and Promotions on the Non-Promotion List Since 16 Aug. 1945.

Promotion List
Last promotion to the grade of col.—William F. Freehoff, Inf. No. 66; Vacancies—None; Senior Lt. Col.—Rexford E. Willoughby, Cav. No. 67.
Last promotion to the grade of Lt. Col.—James H. Dickie, FD No. 78.
Last promotion to the grade of major—Paul E. MacLaughlin, Inf. No. 197.
Last promotion to the grade of capt.—Geo. M. Jones, Inf. No. 226.
Last promotion to the grade of 1st Lt.—Raymond L. Hoff, QMC No. 660.

Non-Promotion List

Capt. to Maj.
Emmett L. Kehoe, MC, (temp. lt. col.)

Persian Gulf Command

Teheran, Iran — Brig. Gen. Donald Peter Booth, of the once vital Persian Gulf Command supply line to Soviet Russia, has relinquished his duties as Commanding General and departed for reassignment, Command Headquarters has announced.

Col. Gustav A. M. Anderson, Minnesota-born veteran of 29 years of service in the Army, succeeded General Booth as Commander of the Persian Gulf Command.

Col. Pasco Appointed

Col. H. Merrill Pasco, has been named secretary of the War Department General Staff, it was announced this week.

Col. Pasco replaces Col. Frank McCarthy who has been appointed Assistant Secretary of State. A reserve officer, Col. Pasco was called to active duty in February, 1941.

May Lower Point Score

Strong indication that enlisted personnel with 75 points or more will be returned to this country from the European Theater as soon as shipping space will permit, was revealed by the War Department this week.

Although no official confirmation of the War Department's plan for reduction in points from 85 to 75 was given, a letter from General of the Army George C. Marshall, Chief of Staff, to General of the Army Eisenhower, outlined a post V-J Day shipping program which if carried through would result in a reduction of the present point score as shipping facilities permit.

General Marshall pointed out in his message that in general terms, first priority must go more quickly to men for demobilization. Second priority, he said, would go to low score men required as replacements for zone of interior installations in the United States, regarding which further details will be disclosed.

"We cannot at this time give you a final critical score," General Marshall stated, "but in the interest of prompt return of the greatest number of people you should return all with the score of 85 or over, and makes plans to return those with a score of 75 or over, if necessary to fill available shipping."

The Chief of Staff said that it was his intention that when Japan surrenders the return of personnel from the European Theaters for discharge will have a priority over all but General MacArthur's most urgent requirements.

"We must do everything within our power to release personnel just as rapidly as possible," he said. "Will you please give this your personal attention and keep me advised."

The General's letter was released by the War Department in an official statement denying that wholesale "pressure" brought by individuals had been a factor in speeding up return of troops.

The statement said that protests from 3,000 veterans of the Twenty-ninth Infantry Division had nothing to do with their being scheduled for an early return home from Europe.

It was pointed out that with the close of the war in the Pacific, and the consequent release of more shipping space for troop transportation, it might now be possible to return more men to the United States.

Turn In Unwanted Clothing

As a means of meeting shortages in certain items, especially in cotton and wool shirts and trousers, the Army is requesting all soldiers, upon discharge, to turn in all unwanted clothing and equipment.

Honorably discharged soldiers are entitled to retain specific pieces of clothing and equipment but The Quartermaster General has asked them to turn back voluntarily to the Government any item which they do not want.

Gen. Hines' Appointment

Brig. Gen. Frank T. Hines, former Administrator of Veterans Affairs, has been appointed American Ambassador to Panama, it was announced this week.

Gen. Hines ended twenty-two years as Veterans Administrator and was succeeded by General Omar Bradley. His recess appointment as ambassador will have to be submitted to the Senate for approval when Congress reconvenes.



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SIZE
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Navy Urges Insurance

Navy personnel this week were urged by the Navy Department to study carefully their prospective financial futures before converting their insurance policies upon discharge.

The Department suggests that enlisted and officer personnel delay converting to another type of policy until it is possible to see a "clear road ahead" financially. According to Comdr. Carl A. Zoller, (SC) USNR, head of the Insurance Section of Dependents Welfare Division, Bureau of Naval Personnel, approximately 95 per cent of Naval personnel are insured under the law passed 8 Oct. 1940. All five-year term insurance effective prior to 1 January, 1946, was extended by Congress this year for an additional three-year period. Present policies are therefore effective for eight years from issue, regardless of whether the policyholder is in or out of service and provided he continues to pay the premiums.

The Veterans' Administration has received more than 17,000,000 applications from all sources for insurance purposes. For the present only certificates of insurance have been issued to purchasers. Regular policies will be issued at a future date.

Navy Cancels Tobacco Rationing

Rationing of cigarettes, cigars and smoking tobacco for Naval personnel stationed within the continental United States has been cancelled, effective immediately.

Ration cards are no longer necessary to purchase the smoking items at ship's stores or other Naval installations where they have been sold by ration since 11 May 1945.

Authorization for sale of tobacco products to Civil Service employees by ship's service departments is also cancelled.

U. of Rochester Navy Unit

Commanding officer of the University of Rochester Navy V-12 unit since its inception in July, 1943, Comdr. William M. Neill, USNR, will be relieved of his duties at the university this week. He has received no definite orders as to future assignments, but has made application for inactive duty status.

His successor as commanding officer will be Comdr. Clarke Olney, USNR, now at Harvard University.

On 13 Aug., the 1,000,000th soldier to return from all overseas theaters since 12 May arrived in the United States.



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U. S. NAVY & MARINE CORPS

New Command for Capt. Wieber

Capt. Carlos W. Wieber, USN, a Navy man for 31 years and until recently commanding officer of the aircraft carrier USS Essex in the Pacific, has taken command of all naval air bases in the Third Naval District. His headquarters will be U. S. Naval Air Station, Floyd Bennett Field, Brooklyn, N. Y.

In a brief change-of-command ceremony conducted before a muster of station personnel at Floyd Bennett Field, Captain Wieber relieved Capt. Newton H. White, Jr., USN-Ret., who has been commanding officer of NAS, N. Y., for the past 27 months. Captain White, retired in 1939 and recalled to duty in 1941, again has been placed on the Navy's retired list. He is concluding a career of 42 years in the Navy.

Captain Wieber, a graduate of the Naval Academy in 1917 and a veteran of World War I, was skipper of the Essex for nearly a year.

Adm. Nimitz Accepts Award

Following are the remarks made by Fleet Admiral Chester W. Nimitz, USN, on receiving the Order of the Bath, Knight Grand Cross, from Admiral Sir Bruce Fraser, GCB, KBE, Commander in Chief British Pacific Fleet, aboard H.M.S. Duke of York on 10 Aug. 1945.

"Admiral Fraser, Officers and Men of the British and United States Pacific Fleets and of the Pacific Ocean Areas:

"I deeply appreciate the high honor which is about to be accorded me. I am mindful that this honor is being paid not to me personally, but to the achievements of officers and men of the United States Pacific Fleet and all personnel embraced in the Pacific Ocean Areas Command. It is to their daring, skill, and sacrifices that our success in battle is due. It is in their behalf that I will accept appointment to the most Honorable Order of the Bath.

"I am particularly pleased that this ceremony will take place aboard this proud and proficient Man O' War. As you know, Admiral Fraser flew his flag in this ship when the battle cruiser Scharnhorst was brought to action and sunk off North Cape the day after Christmas, 1943. A broadside from these guns spelled the Scharnhorst's doom.

"This is both an appropriate place, and an appropriate date for this ceremony. One year ago today organized Japanese resistance of Guam was broken, and we began the work of building the great fleet and air base you are visiting today.

"We are pleased to welcome HMS Duke of York as a powerful addition to the growing British Pacific Fleet. That Fleet has already compiled a fine record of damage done to Japanese military resources. First in combination with the United States Fifth Fleet and now with our Third Fleet, the British forces have consistently given a sterling account of themselves.

"I welcome you to the Pacific. I welcome the firm and able hand you will give us in finishing the big job we have yet to do. I am confident that in good time you will see the day when that job is finished; when Japan, devastated and powerless, will give way before our combined strength and be forced to surrender. To you and your shipmates in other vessels, good luck and good shooting."



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Must Retain Control of Sea

America's sea power was the foundation of its ability to employ the sum of our national strength where it was needed, and was also the basis for our ability to fight effectively with our Allies. Fleet Admiral Ernest J. King, USN, Commander in Chief, United States Fleet and Chief of Naval Operations, declared this week.

Speaking before a radio audience on the Navy hour, Admiral King said that the Navy made it possible for the United States to transport essential supplies over great distances of both oceans, and finally, in conjunction with the air strength supplied through seapower, to bring about the surrender of our last enemy.

Commenting on the future, Adm. King said that no matter how altruistic the United States is as a nation, it can never afford to let its national security depend solely on the good will of other nations.

"We must retain control of the sea in all areas vital to our defense," he said.

The Navy Chief said that the mission of the post-war Navy will be to contribute to sustaining the peace of the world, to maintain the security, welfare and prestige of our country, and insure respect for peaceful policies of the United States.

Speaking of the personnel of the Navy, Marine Corps and Coast Guard, Adm. King said he knew that they would carry out this mission as efficiently, loyally and unselfishly as they had served thus far.

Atlantic Harbor Controls

Harbor protective measures have been relaxed by the Navy at 13 Atlantic ports from Maine to Trinidad, British West Indies, where harbor entrance control posts have been discontinued.

The posts, wartime harbor guardians, were disestablished after certain Atlantic coastal defenses no longer were regarded essential to national security. Harbor entrance control posts direct all traffic in harbor channels and maintain radar guards and underwater sound detection devices.

Discontinued in the recent relaxation move in the Atlantic were the control posts at:

Fort Williams, South Portland, Me.
Fort Stark, Portsmouth, N. H.
Fort Dawes, Winthrop, Mass.
Beavertail, Jamestown, R. I.
Fisher's Island, Long Island Sound, N. Y.
Fort Tilden, N. Y.
Fort Wadsworth, Staten Island, N. Y.
Fort Hancock, N. J.
Cape Henlopen, Lewes, Del.
Fort Moultrie, S. C.
Chacachacare Island, Trinidad, British West Indies
El Morro, San Juan, Porto Rico
Guantanamo, Cuba

President Truman's Nephew

John C. Truman, Seaman, First Class, USNR, 32, nephew of President Harry S. Truman, is serving aboard the USS Missouri, the 45,000-ton battleship named for the Chief Executive's home state. Miss Mary Margaret Truman, daughter of the President, sponsored the ship, and President (then Senator) Truman delivered an address at the launching in January, 1944.

President Truman on Friday was presented a model of the Missouri by Secretary of the Navy James Forrestal. John Truman is "striking" for the rating of quartermaster on the warship, on which he has served since November.

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First Luzon Landing

Officers and men of the USS Aspro made the first "amphibious assault" on the Island of Luzon, more than three months before General of the Army Douglas MacArthur's return, the Navy Department said in an announcement this week.

The USS Aspro, a submarine, under the command of Comdr. William A. Stevenson, USN, was trying to get in position to sink two heavily loaded Japanese ships—a tanker and a freighter—with one salvo when suddenly she had to zig to avoid being rammed by the lead ship.

The zig headed the Aspro toward the beach and it was an agonizing period for the men until she pulled clear. The Aspro waited for the range to open a bit and her gunners were ready to fire again when the submarine suddenly started to shimmy, vibrate, groan and even worse, she began to surface. Finally she stopped with a sickening crunch. She was grounded.

The men aboard the Aspro refer to the vessel as the USS Aspro, LCS., the "LCS" they state is the designation for "Land-ing Craft submersible."

Rear Adm. Furer Honored

Rear Adm. Julius A. Furer, USN-Ret., received the Legion of Merit 21 Aug. from Assistant Secretary of the Navy for Air John L. Sullivan for exceptionally meritorious service as Coordinator of Research and Development.

Text of the citation accompanying the award reads:

"For exceptionally meritorious conduct in the performance of outstanding service to the Government of the United States as Coordinator of Research and Development from December 1941, to May 1945. During this period, Rear Admiral Furer, by devoted effort, established and maintained close cooperation between the Navy and the civilian scientists engaged in the war effort. Overcoming many obstacles, he assisted in expediting the introduction of new weapons and other important developments into actual war service, both by coordinating scientific effort within the Navy Department and coordination with the War Department, civilian agencies and corresponding agencies of Allied Nations. Admiral Furer also served as a member of the Advisory Council of the Office of Scientific Research and Development and the National Inventor's Council and as the Executive Member of the Research Board for National Security, in which capacities his services have advanced the objectives of the Navy Department in Research and Development. He personally increased the contribution of scientific research to the Navy's war effort by his unwavering emphasis on the early conversion of research results into production and service use."

The office of the Coordinator of Research and Development was established in July, 1941, to facilitate and make effective the work of civilian scientists, especially those who were being mobilized under the direction of Dr. Vannevar Bush in the Office of Scientific Research and Development, in the Office of Emergency Management, which had been established a few weeks before by President Franklin D. Roosevelt.

Rear Admiral Furer was appointed Coordinator just before Pearl Harbor in 1941 and, on reaching retirement age in October, 1944, was continued in this duty. At the urgent request of the Commander in Chief of the U. S. Fleet, Dr. Vannevar Bush, and civilian experts in other scientific organizations.

Rear Admiral Furer is on leave and attached to the Secretary's Office at present, and will go on inactive duty shortly. In addition to the Legion of Merit he received, he wears the Navy Cross, Spanish American Campaign Medal, Victory Medal, American Defense Service Medal, European-African-Middle Eastern Area Campaign Medal, the French Legion of Honor, British Coronation of George VI, and the Belgian Order of the Crown.



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ARMY AND NAVY JOURNAL

New Subscription rates, effective Aug. 1, 1945—To individual members of the Service and their families: One year \$5.00; two years \$9.00; six months \$3.00. To civilians and organizations: One year \$7.00; two years \$12.00; six months \$4.00. Renewals—Renewals of subscriptions now in force (regardless of expiration date) will be accepted at old rates provided payment is mailed prior to Sept. 1, 1945. Old rates: To individual members of the Service and their families: One year \$4.00; two years \$7.00; six months \$2.25. To civilians and Organizations: One year \$6.00; two years \$9.00; six months \$3.50. Foreign postage \$1 additional per year. Advertising Rates on Request. Member of the Audit Bureau of Circulation.

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SATURDAY, AUGUST 25, 1945

"The United States must not permit its Pacific bases to lapse back into a state of unpreparedness, as in the instances of Guam and Wake, prior to the present war."—REPORT OF HOUSE NAVAL SUBCOMMITTEE.

WHAT a pretty pass we have come to when we allow France to correct the pay injustices suffered by our troops as a result of our niggardliness. That impoverished country, beneficiary of Lend-Lease and further aid, and now applicant for an additional loan to assist reconstruction and rehabilitation, has granted a "subsidy" of 850 francs, equal to \$17 monthly, to members of the United States forces stationed in or passing through its territory in order to make their purchasing power in keeping with that of resident civilian Americans. In addition to the actual cash, the French have inaugurated a program of substantial price reductions for articles made in France and sold at Army Post Exchanges, and for entertainment and refreshments at centers already opened or to be opened with French co-operation. It would seem that our own Government, long ago responsible for fixing the exchange at \$1 for 49 francs, would have made provision to compensate its men in uniform for the loss they sustained with the black market rate ranging from 100 to 300 francs for \$1. But there was fear that such action might increase inflation in the country, and it was deemed preferable to have our men lose on exchange rather than add to French distress. With the reduction of our forces in France, it is assumed by the French that the subsidy granted to them will not damage the national economy through further depreciation of the Franc. There is a law authorizing payment of additional amounts to State Department and Army and Navy personnel when they are stationed in countries where an unfavorable rate of exchange would otherwise reduce their standard of living. However, only such personnel as rent their own quarters, and buy their own food, etc., are authorized to receive this allowance, and inasmuch as quarters and subsistence are provided there is no authority to provide this for our men now in France. Instead of broadening this policy so as to apply it to our forces now on foreign duty, we are permitting needy France to augment their pay. When Congress studies this matter we believe that it will emphatically condemn it. More than this, it should provide to maintain the purchasing power of our men on the basis of their pay wherever they may be. The spectacle of a foreign government subsidizing our troops is not only repugnant to American pride, but carries with it the idea of mercenary soldiers which recalls the Hessians of our Revolution. Let us stop instantly a practice, which, however generous upon the part of France, really means that our own money is being used indirectly rather than directly to compensate our men. Further, let us see that pay schedules be corrected so that there will be compensation for all ranks, active and retired, which will accord with the increase that has occurred in the cost of living.

WE do not believe there will be a dissenting voice to the proposal of Senator Thomas, Chairman of the Senate Military Committee, to make permanent the five-star rank for the military and naval and air leaders who now bear it. Certainly the Service will accept such legislation not only because of their appreciation of the invaluable character of the work done by the members of the President's staff and by the Supreme Commanders in Europe and the Pacific, but because they will regard it as recognition of the efficiency and bravery they themselves displayed. The high order of the over-all strategy devised to bring our enemies to surrender, which was the genius of the President's staff, and the magnificent execution of the local strategical and tactical operations which was a responsibility of the commanders in the field, were the product of their knowledge of the fundamental principles of warfare and its effective employment in the winning of the global victory. The honor of retaining their highest war ranks on the retired list should also be extended to the other members of the high command and to personnel of all grades who served honorably in the war. Throughout the ranks, Army, Navy and Air, the spirit of the leaders spread and the impossible became the achievements. Mistakes, of course, were made, waste was unavoidable, and we are due for exposures that may seem shocking. But we must not forget that never in history has there been such military expansion as that which the United States effected, that never were troops and crews better fed, clothed, equipped and trained, that our forces were conveyed safely across the dangerous wide oceans, that in cooperation with the British, the German Navy was destroyed, that Fleet Admiral Nimitz's fleets wiped out the Japanese Navy so that General of the Army MacArthur was able to move with ample protection, and the Japanese government, even before the devastation wrought by the Atomic Bomb, had lost command of the seas and, therefore, had lost the war. The operations conducted were conducted as a team and while every member deserves our ardent admiration and grateful thanks, let us not neglect to give credit to the silent service, the Submarine, which not only sank Germans but 1,187 Japanese war ships and merchantmen, and saved the lives of 227 aviators downed in Japanese waters from 28 May to 15 Aug. It will be impossible to reward fully all the leaders and heroes of the ghastly conflict now satisfactorily ended, but we can recognize all of them through the continuance of the rank now held by Fleet Admirals Leahy, King, and Nimitz, and Generals of the Army Marshall, Arnold, MacArthur, and Eisenhower. And to their names should be added Admiral Halsey who is not only a great fighter but an inspirer of his men and the nation.

Service Humor

Technique

Gently he took his wife's dainty little hand in his—and twisted it until she dropped the knife.

—Kearns Post Review

Suspense

Famous last lines: "But, sir, I can't be transferred. I'm next on the list for Forever Amber."

—Jungle Mudder

Monotonous

Many a man wouldn't mind his wife having the last word if she wouldn't go on repeating it.

—Belvoir Castle

No Chances

A swank chap applied at the recruiting office to enlist: "I suppose you want a commission," said the officer. "No thanks," was the reply. "I'm such a poor shot I'd rather work on a straight salary."

—Armored News

Getting Ready

The young Medical Lieutenant walked past the ward each morning; in the yard one of the inmates was always going through the motions of winding up and pitching an imaginary ball.

One of his friends finally asked: "Why do you stop each morning and watch that screwball go through his act?"

"Well," he answered. "If things keep going the way they are, I'll be in there some day catching for that guy and I want to get onto his curves."

—Scott Field Broadcaster

Right Lady

Sailor: "Yes, Ma'am, that's a man o' war."

Lady: "Indeed? And what is the little ship in front?"

Sailor: "Oh, that's just a tug."

Lady: "Yes, of course. A tug of war. I've heard of them."

—Jax Air News

True

Card from a soldier on leave: "Having a wonderful time. Wish I could afford it."

—Signal Corps Message

Jargon

Lowdown on military commands:

HUT—One, as in Hut, tup, thrup, fup.

HARCH—March, as in Ford Harch.

HREZENT—Present, as in Hrezent Harz.

HARRITE—Right, as in Harrite Drez.

HRIP—Rear, as in Hrip Harch.

TOON—Platoon, as in Tallion, Toon, Halt.

—Skyscrapers

Missed

Visitor: I'm looking for a man in your company—Pvt. Robles. He's my grandson.

First Sgt: I'm sorry, Ma'am, but he left on pass this morning to go to your funeral.

—Bowie Blade

The Winner

Here is a tale of an inebriated Yale student who saw a signpost in Providence that read: "New Haven 126, Cambridge 54."

"Yippee!" cried the scholar. "I always knew we could trim those guys!"

—Naval Depot Bulletin

ASK THE JOURNAL

Please send return postage for direct reply.

J. M.—An Army enlisted man may be transferred to the Navy by the President. Existing regulations do not preclude honorably discharged Army men from reenlisting in the Regular Navy if all other qualifications are met.

C. C. K.—Original enlistments and reenlistments are now open in the Regular Army. An enlisted man of the AUS may apply for a discharge for the purpose of reenlisting in the Regular Army. Enlistments are for three years.

J. W. G.—Regular Army enlisted men who reenlist in the Regular Army are not entitled to mustering out pay until their "ultimate separation from the service." War Department Circular 249, 16 Aug. 1945 provides that a notation will be made on each such enlisted man's service record so that his eligibility for mustering out pay will be established when he becomes finally separated from the service.

V. J.—An officer of the Regular Army Nurse Corps may submit her resignation but due to the present acute shortage of Army nurse personnel it is doubtful if the resignation would be received favorably.

W. W. H.—The enlistments of all enlisted men now in the Regular Army will continue in force for the duration plus 6 months, under Section 55 National Defense Act as amended. However all such enlisted men may apply for discharge for the purpose of entering a new 3-year enlistment.

H. A. Y.—Lump-sum payments are still authorized for Air Corps reserve officers when relieved from active duty.

In The Journal

One Year Ago

The most interesting Naval event of the past week was the surrender to the U. S. Cruiser Omaha on 22 Aug. of the stubbornly defended island of Porquerolles, following several days of bombardment by Naval forces. The capture of this bastion guarding the eastern approaches to the Toulon area completed the investment by Allied Forces of the Hyeres Islands.

10 Years Ago

Capt. and Mrs. Otto E. Bartoe, USMC, entertained about forty friends at a garden picnic (San Diego) Saturday afternoon in observance of their sixteenth wedding anniversary.

25 Years Ago

Brig. Gen. William D. Connor, USA, who was lately detached from command at Fort Humphreys and made Chief of Transportation, has arrived in Washington with Mrs. Connor.

50 Years Ago

The naval estimates now being prepared at the Navy Department will show a notable decrease in the amount necessary for continuing work on the new Navy. The estimates for the coming year will be at least \$5,000,000 less than the current appropriation (\$13,000,000).

80 Years Ago

(Sale of surplus property at close of Civil War)—Hospital tents, 9½ cents per pound; common tents, 7½; shelter tents, 6; spades 8¼; shovels, 7¼; camp hatchets, 11½; pick-axes, 25¼; axes, 23 cents apiece; harness, \$2.02-\$2.40 a single set; wagon covers, 15 cents per pound. All other articles brought like good prices.

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NAVY DEPT. & FLEET

Secretary of the Navy—James V. Forrestal.
Under Secretary of the Navy—Artemus L. Gates.
Assistant Secretary of the Navy, Air—John L. Sullivan.
Assistant Secretary of the Navy—H. Struve Hensel.
COMINCH, U. S. Fleet, and Chief of Naval Operations—Fleet Admiral Ernest J. King.
Vice Chief of Naval Operations—Admiral F. J. Horne.
Deputy COMINCH and Deputy CNO—Admiral Richard S. Edwards.
Chief of Staff to COMINCH—Vice Adm. C. M. Cooke, Jr.
Deputy Chief of Naval Operations (Air) — Vice Adm. Aubrey W. Fitch.
Chief of Naval Personnel—Vice Adm. Randall Jacobs.
Asst. Chief of Naval Personnel—Rear Adm. William Fechtler.
Chief Bureau of Ordnance—Rear Adm. Geo. Husey, Jr.
Chief, Bureau of Ships—Vice Adm. Edward L. Cochrane.
Chief, Bureau of Aeronautics — Rear Adm. Harold B. Sallada.
Chief, Bureau of Yards and Docks—Vice Adm. Ben Moorell (C. E. C.).
Chief, Bureau of Supplies and Accounts, and Paymaster General — Rear Adm. W. J. Carter (S. C.).
Chief, Bureau of Medicine and Surgery, and Surgeon General—Vice Adm. Ross T. McIntire (M. C.).
Commandant of the Marine Corps—General Alexander A. Vandegrift, USMC.
Commandant, United States Coast Guard—Admiral Russell R. Waesche, USCG.

FLEET COMMANDERS

Commander Naval Forces, Pacific Theater, Also Pacific Fleet—Fleet Admiral Chester W. Nimitz.
Atlantic Fleet—Admiral Jonas H. Ingram.
Third Fleet—Admiral William F. Halsey, Jr.
Fourth Fleet also CINCPAC, South Atlantic Force—Vice Adm. William R. Munroe.
Fifth Fleet—Admiral Raymond A. Spruance.
Seventh Fleet, also Comdr., Southwest Pacific Force—Admiral Thomas C. Kinkaid.
Twelfth Fleet, also Comdr., U. S. Naval Forces, Europe—Admiral Harold R. Stark.

OTHER COMMANDERS

Commander, Western Sea Frontier—Admiral Royal E. Ingersoll.
Duty with Comdr. Naval Forces, Germany—Vice Adm. Robert L. Ghormley.
Comdr. North Pacific Force, North Pacific Area, and Alaskan Sea Frontier—Vice Adm. Frank J. Fletcher.
Deputy CINCPAC and Pacific Ocean Areas — Vice Adm. John H. Towers.
Commander Marianas—Vice Adm. John H. Hoover.
Comdr. N. W. African Waters—Vice Adm. William A. Glassford.
Comdr. of Carrier Task Force, 3rd Fleet—Vice Adm. John S. McCain.
Comdr., Air Force, Pacific—Vice Adm. George D. Murray.
Comdr., Air Force, Atlantic—Vice Adm. P. N. L. Bellinger.
Comdr., Submarines, Pacific — Vice Adm. Charles A. Lockwood.
Comdr., South Pacific Force and Areta—Vice Adm. W. L. Calhoun.
Comdr., Eastern Sea Frontier — Vice Adm. Herbert F. Leahy.
Comdr., Philippine Sea Frontier—Vice Adm. James L. Kauffman.
Comdr., Hawaiian Sea Frontier and 14th Naval Dist.—Vice Adm. David W. Bagley.
Comdr. Battleship Squadron Two, Pacific Fleet—Vice Adm. Willis A. Lee.
Comdr. Amphibious Forces, Pacific—Admiral Richmond K. Turner.
Comdr. Task Force, Pacific—Rear Adm. Frederick C. Sherman.
Comdr., Caribbean Sea Frontier and Commandant of 10th Naval District—Vice Adm. Robert C. Giffen.
Comdr. of an Amphibious Force, Pacific—Vice Adm. Theodore S. Wilkinson.
Comdr., U. S. Naval Forces, France—Vice Adm. Alan G. Kirk.
Comdr. Battleship Squadron One, Pacific—Vice Adm. Jesse R. Oldendorf.
Comdr. of an Amphibious Force, Pacific—Vice Adm. Daniel E. Barbey.
Comdr. Service Force, Pacific—Vice Adm. William W. Smith.
Comdr. Panama Sea Frontier and Comdt. 15th Naval District—Rear Adm. H. F. Kingman.
Comdr. Gulf Sea Frontier and Commandant of 7th Naval District—Vice Adm. Walter S. Anderson.
Comdr. of a Battleship Division, Pacific—Rear Adm. John F. Shafer, Jr.
Comdr. of an Amphibious Group, Pacific—Rear Adm. W. H. P. Blandy.

OFFICIAL ORDERS

(Publication suspended for duration of War)

WAR DEPT. & ARMY

Secretary of War—Henry L. Stimson.
Under Secretary of War—Robert P. Patterson.
Assistant Secretary of War—John J. McCloy.
Assistant Secretary of War, Air—Robert A. Lovett.
Chief of Staff—General of the Army George C. Marshall.
Deputy Chief of Staff—General Thomas T. Handy.
Commanding General, Army Air Forces — General of the Army Henry H. Arnold.
Deputy Commander AAF, and Chief of Air Staff—Lt. Gen. Ira C. Eaker.
Commanding General, Army Ground Forces—General Jacob L. Devers.
Commanding General, Army Service Forces—Gen. Breton Somervell.
Deputy Commanding General and Chief of Staff, ASF—Maj. Gen. Leroy Lutes.

THEATER COMMANDERS

Supreme Commander, Allied Forces in Japan — General of the Army Douglas MacArthur.
European—General of the Army Dwight D. Eisenhower.
Deputy Commander, U. S. Forces—Lt. Gen. Ben Lear.
Pacific Ocean Areas—Lt. Gen. R. C. Richardson, Jr.
U. S. Army Forces, Western Pacific—Lt. Gen. Wilhelm D. Styer.
China—Lt. Gen. Albert C. Wedemeyer.
Burma-India—Lt. Gen. Raymond A. Wheeler.
Mediterranean—General Joseph T. McNarney (Deputy Allied Commander).
Africa-Middle East—Maj. Gen. Benjamin F. Gilles.

AREA COMMANDERS

Island Commander, Okinawa—Maj. Gen. Fred C. Wallace.
Bermuda Base Command—Brig. Gen. Alden G. Strong.
South Pacific Base Command — Maj. Gen. Frederick Glibbreath.
Trinidad Base Command—Brig. Gen. Oliver B. Bucher.
Caribbean Defense Command and Panama Canal Dept.—Lt. Gen. George H. Brett.
Newfoundland Base Command — Brig. Gen. S. M. Connell.
Antilles Department—Maj. Gen. William M. Grimes.
Eastern Defense Command—Lt. Gen. George W. Grunert.

Comdr. of an Amphibious Group, Pacific—Rear Adm. Richard L. Conolly.
Comdr. of an Amphibious Group, Pacific Fleet—Rear Adm. Ralph O. Davis.
Comdr. of an Amphibious Group—Rear Adm. Arthur D. Struble.
Dir. Central Div. CNO, Pacific—Rear Adm. John L. McCrea.
Comdr. of a Carrier Division, Pacific—Rear Adm. Arthur W. Radford.
Comdr. of a Carrier Division—Rear Adm. Thomas L. Sprague.
Comdr. Fleet Operational Training Command, —Rear Adm. Carlton F. Bryant.
Comdr. Fleet Operational Training Command, Pacific—Rear Adm. Francis C. Denebrink.
Comdr. of an Amphibious Group—Rear Adm. Jerauld Wright.
Comdr. of a Carrier Division—Rear Adm. C. A. F. Sprague.
Chief of Staff and Aide, ComAirLant—Rear Adm. Ralph A. Ofstie.

DISTRICT COMMANDANTS

1st N. D.—Rear Adm. Felix X. Gygas.
3rd N. D.—Rear Adm. Munroe Kelly.
4th N. D.—Rear Adm. Milo F. Draemel.
5th N. D.—Rear Adm. David McD. LeBreton.
6th N. D.—Rear Adm. Jules James.
7th S. D.—Vice Adm. Walter S. Anderson.
8th N. D.—Rear Adm. A. C. Bennett.
9th N. D.—Vice Adm. Arthur S. Carpenter.
10th N. D.—Vice Adm. Robert C. Giffen.
11th N. D.—Rear Adm. Wilhelm Lee Friedell.
12th N. D.—Rear Adm. Carleton H. Wright.
13th N. D.—Rear Adm. R. M. Griffin.
14th N. D.—Vice Adm. David Worth Bagley.
15th N. D.—Rear Adm. Howard F. Kingman.
17th N. D.—Rear Adm. Ralph F. Wood.

MARINE CORPS COMMANDERS

Commanding General, Fleet Marine Force, Pacific—Lt. Gen. Roy S. Geiger.
Commanding General, Supply Section, FMF Pacific—Brig. Gen. Merritt A. Edson.
Commanding General, 5th Amphibious Corps —Maj. Gen. Harry Schmidt.
Commanding General, Aircraft, FMF, Pacific —Maj. Gen. James T. Moore.
Commanding General, Dept. of the Pacific—Maj. Gen. Julian Smith.
Guam Commandant—Maj. Gen. Henry Larsen.
1st Division—Maj. Gen. P. A. del Valle.
2nd Division—Maj. Gen. Leroy T. Hunt.
3rd Division—Maj. Gen. Graves B. Erskine.
4th Division—Maj. Gen. Clifton B. Cates.
5th Division—Maj. Gen. Thomas E. Bourke.
6th Division—Maj. Gen. Lemuel C. Shepherd.
Commandant, San Diego Training Station—Lt. Gen. Holland M. Smith.
Commanding Gen., 3rd Amphibious Corps—Maj. Gen. Keller E. Rockey.

Navy Contract Termination

Approximately 3,800 contracts or orders for naval ordnance will be affected by the termination of hostilities with Japan, the Navy Department announced this week.
Contracts for naval ordnance, which was explained fall into two groups—those for expendable ordnance, such as a munition, and those for non-expendables, or continuing installations, such as guns and turrets.
About 1,600 of the 3,800 contracts will be continued without modification. Another 500 contracts will be modified. The value of the procurement remaining on the books will be about \$1,100,000,000. The dollar value of the cuts, including the 1,200 contracts terminated entirely and those partially cancelled, is about \$1,500,000,000. Some 400 contracts will be reviewed for final determination of requirements before any action is taken.

During 8 years of war, China suffered casualties totalling 3,178,003; including 113,248 missing, 1,732,691 wounded, and 1,310,224 killed.

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Western Defense Command—Maj. Gen. Harry C. Pratt.
Army Forces, Iceland—Brig. Gen. Early M. W. Duncan.
Persian Gulf Command—Brig. Gen. Donald P. Booth.
Alaskan Department—Lt. Gen. Delos C. Emmons.
Central Pacific Base Command—Maj. Gen. H. T. Burgin.
Iceland Base Command—Brig. Gen. Martinus Stenseth.

EUROPEAN AND MEDITERRANEAN THEATERS

Army Commanders
First Army—General Courtney H. Hodges.
Third Army, (12th AGP.) — General George S. Patton, Jr.
Fifth Army—Lt. Gen. Lucian Truscott, Jr.
Seventh Army—Lt. Gen. Wade H. Haislip.
Ninth Army—Lt. Gen. William H. Simpson.
Fifteenth Army—Lt. Gen. Leonard T. Gerow.
First Allied Airborne—Lt. Gen. Lewis H. Brereton.

Corps Commanders

II Corps (5th Army) — Lt. Gen. Geoffrey Keyes.
III Corps (First Army) — Maj. Gen. James A. Van Fleet.
IV Corps (5th Army)—Maj. Gen. Willis D. Crittenden.
V Corps (First Army)—Maj. Gen. Clarence B. Huebner.
VI Corps (Seventh Army)—
VII Corps (First Army)—Lt. Gen. Joseph L. Collins.
VIII Corps (Third Army)—Maj. Gen. Troy H. Middleton.
XII Corps (Third Army)—
XIII Corps (Ninth Army)—Maj. Gen. Alvas C. Gillem, Jr.
XV Corps (Seventh Army)—Maj. Gen. Walter M. Robertson.
XVI Corps (Ninth Army)—Maj. Gen. John B. Anderson.
XVIII Airborne Corps (First Army)—Maj. Gen. Matthew B. Ridgeway.
XIX Corps (Ninth Army)—Maj. Gen. Raymond S. McLain.
XX Corps (Third Army)—Lt. Gen. Walton Walker.
XXI Corps (Seventh Army)—Maj. Gen. Frank W. Milburn.
XXII Corps (Fifteenth Army) — Maj. Gen. Ernest N. Harmon.
XXIII Corps (Fifteenth Army) — Maj. Gen. Hugh J. Gaffey.

(Please turn to Next Page)

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War Dept. & Army (Continued from Preceding Page)

SOUTHWEST PACIFIC AREA

Army Commanders

Sixth Army—General Walter Krueger.
Eighth Army—Lt. Gen. Robert L. Eichelberger.
Tenth Army—General Joseph W. Stilwell.

Corps Commanders
I Corps (Sixth Army)—Maj. Gen. Innis P. Swift.
X Corps (Sixth Army)—Maj. Gen. Franklin C. Sibert.
XI Corps (Eighth Army)—Maj. Gen. Charles P. Hall.
XIV Corps (Sixth Army)—Lt. Gen. Oscar W. Griswold.
XXIV Corps (Sixth Army)—Maj. Gen. John B. Hodge.

AIR FORCES

Army Air Forces, Pacific Ocean Areas—Lt. Gen. Barney M. Giles.

Far East Air Forces—General George C. Kenney.
Strategic Air Forces, Pacific—General Carl A. Spaatz.
Eastern Air Command—Maj. Gen. George E. Stratemeyer.
Mediterranean Allied Air Forces—Lt. Gen. John K. Cannon.
First Tactical—Maj. Gen. Robert Webster.
First—Maj. Gen. Frank O'D. Hunter.
Second—Maj. Gen. R. B. Williams.
Third—Maj. Gen. Westside T. Larson.
Fourth—Maj. Gen. Willis H. Hale.
Fifth—Maj. Gen. Ennis C. Whitehead.
Sixth—Maj. Gen. William O. Butler.
Seventh—Brig. Gen. Thomas White.
Eighth—Lt. Gen. James H. Doolittle.
Ninth—Lt. Gen. Hoyt S. Vandenberg.
Tenth—Maj. Gen. George E. Stratemeyer.
Commanding General, Eastern Air Command.
Eleventh—Maj. Gen. John B. Brooks.
Twelfth—Maj. Gen. Benjamin W. Chidlaw.
Thirteenth—
Fourteenth—
Fifteenth—
Nineteenth—Brig. Gen. O. P. Weyland, Tactical Air Command.
Twentieth—Lt. Gen. Nathan F. Twining.

SERVICE COMMANDS

First—Maj. Gen. Sherman Miles.
Second—Maj. Gen. Thomas A. Terry.
Third—Maj. Gen. Philip Hayes.
Fourth—Maj. Gen. Edward H. Brooks.
Fifth—Maj. Gen. James L. Collins.
Sixth—Maj. Gen. Russell B. Reynolds.
Seventh—Maj. Gen. Clarence H. Danielson.
Eighth—Lt. Gen. Walton Walker.
Ninth—Maj. Gen. William E. Shedd.
Note—While the foregoing list has been corrected to date, constant changes are in progress as redeployment is carried out.

Awards and Decorations

Medal of Honor

S.Sgt. Herbert H. Burr; action in Germany, driving his partly disabled tank through enemy guns and completing his mission.
Pfc. Silvestre S. Herera, Inf.; captured an enemy strongpoint and 8 Germans, unmindful of the loss of both feet in a charge through a minefield.

Distinguished Service Medal

Maj. Gen. S. B. Akin, USA; Chief Signal Officer of the Pacific.
Maj. Gen. H. J. Casey, USA; Chief Engineer, Gen. Hqs., Southwest Pacific Area.
Maj. Gen. W. F. Marquat, USA; Antiaircraft officer, Southwest Pacific Area.
Maj. Gen. J. W. O'Daniel, USA; Com. Gen. 3rd Infantry Div.
Maj. Gen. L. E. Oliver, USA; Com. Gen. Fifth Armored Div.
Maj. Gen. C. H. Danielson, USA; Com. Gen. Seventh Service Command.
Rear Adm. Elw. Stone, USNR; Allied Military Mission and Allied Control Commission.
Brig. Gen. R. C. Crawford, USA; Commandant of Engineer School.
Brig. Gen. F. L. Hayden, USA; Ch. of Enlisted Branch, Military Personnel Div.
Brig. Gen. J. L. Holman, USA; Chief Ordnance Officer, USA Forces in Australia.
Brig. Gen. E. H. Marks, USA; Com. Gen. Fort Belvoir, Va.
Brig. Gen. C. M. Spofford, USA; Chief of Staff for Allied Instrument of Military Government, Mediterranean Theater.
Brig. Gen. Courtney Whitney, USA; Planned guerrilla activities in Philippine Islands.
Col. J. R. V. Dickson, Ord.; Ordnance Officer, Fifth Air Force, Pacific Area.
Col. T. T. Stevenson, GSC; Member G-3 Div., War Dept., Gen. Staff.

Navy Cross

Capt. A. R. Early, USN; Com. Officer of USS Canberra.
Comdr. G. N. Miller, USN; Damage Control Officer, USS Canberra.
Capt. W. W. Behrens, USN; Com. Officer of USS Houston.
*Lt. J. M. Reiser, USNR; Piloted a torpedo plane from USS Belleau Wood during successful strike against Japanese ships and helped his two crewmen parachute to safety losing his own life in his crippled plane.
Legion of Merit
Col. R. J. Jordan, Jr., Capt. A. E. Becker, Jr., USN; Capt. H. A. Sannagel, USN; Lt. Comdr. C. N. Mayo, USNR; Comdr. J. B. Hansen, USN; Comdr. J. E. Edwards, USN; Lt. C. P. Clarke, USN; Col. F. G. White, Lt. Col. W. M. Slayden, Maj. Gen. W. H. Frank, USA; Maj. Gen. B. E. Meyers, USA; Brig. Gen. L. G. Fritz, Brig. Gen. L. R. Hewitt, USA; Col. W. H. Beatty, Col. M. C. Demler, Col. T. S. Faulkner, Col. B. I. Funk, Col. W. F. Hall, MC; Col. A. B. Neske, Col. J. H. Pool and Maj. I. H. Reeves.
Silver Star
Maj. Gen. W. H. Norris, Jr.; Led his troops through heavily defended enemy position in Germany.
Capt. R. S. Smith, USN; Gunnery Officer of USS Cleveland in action against Japanese at Solomon Islands.
Lt. Comdr. Frederic Clarke, USN; Submarine war.
Lt. (jg) LeRoy Merryman, USN; Boatswain Peter Kowalech, USN; CMIC Charles Cockrell, USN; SP2c J. R. Barfuss and MM2c J. J. Wohlfst, USNR, all of the USS Canberra.
Capt. Clarence Broussard, USN; Comdr.

E. S. L. Marshall, USN; Lt. J. B. Simpson, USN; Ch. Carpenter L. J. Schnable, USN; Ch. SKR. J. F. Burkhart, USN; CMM Herbert Ettinger, USNR, and CBM T. G. Rieber, USN, all of the USS Houston, in action off Formosa.

Bronze Star

Capt. J. K. Letellier, WAC; Capt. E. R. McLean, Jr., USN; Capt. J. H. Wellings, USN; Capt. J. F. Walsh, USN; Lt. J. T. McFall, USNR; Lt. E. S. Thompson, USNR; Lt. Comdr. C. H. Hall, USN; Comdr. C. G. Mendenhall, Jr., USN; Lt. Comdr. P. D. Holden, USNR; Lt. H. J. Fonda, USNR; 1st Lt. J. J. Intfen, Lt. M. M. Berman, (ChC) USNR; Lt. D. W. Mayberry, (ChC) USNR; Comdr. C. O. Cook, Jr., USN; Lt. Comdr. J. F. Steuckert, USN; Lt. H. A. Keen, USNR; Lt. F. A. Ruoff, (MC) USN; Lt. (jg) William Massier, USN; CMM H. W. Massier, USN, and CMM H. W. Harrelson, USN.

Air Medal

Lt. J. D. Gordon, USNR; Lt. (jg) W. F. Allen, USNR; Lt. (jg) H. P. Jolly, USNR; ACRM W. W. Danielson, USN; ARM2c J. P. Knippler, USNR, and ARM2c E. S. Witko, USNR.

Navy and Marine Corps Medal

*Ens. P. S. Cribbet, USNR; Service on USS Canberra.

Letters of Commendation

Comdr. E. O. Davis, USN; Lt. (jg) H. P. Gavan, USN; Lt. A. J. Dallendorfer, USN; Commended by the Secretary of the Navy.

Miss Evelyn Blewett, Civilian Consultant to the Surgeon General of the Army, commended by the Surgeon General for Meritorious Civilian Service to the War Dept. during the Army Nurse Procurement campaign.

Foreign Decorations

Brig. Gen. H. E. Dager, awarded Knight of the Legion of Honor and the French Croix de Guerre Medals by the Chief of the French Military Mission in Germany for his services as Comdr. of Combat Command "B" of the 4th Armored Div. in its sweep across France in 1944.

Maj. Gen. R. T. Frederick, Com. General of the 45th "Thunderbird" Infantry Div., was awarded the French Legion of Honor Medal from the Com. General of the French D. M. M.

Lt. Col. W. N. Slayden; Awarded the "Order of Defense of the Russian Homeland."

US Ships Commended

USS Columbia; Commended for outstanding heroism in action as a Unit in a Task Group operating in support of initial landings at Lingayen Gulf, Luzon, P. I., from 1 to 5 Jan. 1945.

Motor Torpedo Boat Squadron Seven; Wins Navy Unit citation for striking at the Japanese supply line in New Guinea area.

Posthumous Decoration

Army Casualties

Following are the officers included in lists of dead, wounded and missing issued this week by the War Department.

In all cases the next of kin have previously been notified and have been kept informed directly by the War Department of any change in status.

DEAD—PACIFIC REGIONS

2nd Lt. J. H. Ferguson, 2nd Lt. H. Hornbostel
son 2nd Lt. F. D. Sharpe, Jr.
2nd Lt. J. J. Deschaf, Jr.
2nd Lt. L. U. Pitts, Jr. 2nd Lt. G. J. Smith
FO B. E. Boynton 2nd Lt. H. W. Pulliam
2nd Lt. H. C. Mullin
2nd Lt. S. A. Reed 2nd Lt. J. Horgan
FO N. T. McGinnis 1st Lt. S. R. Walkingstick
2nd Lt. R. H. Simer

DEAD—EUROPEAN REGIONS

2nd Lt. J. H. Sinnott

WOUNDED—PACIFIC REGIONS

1st Lt. R. Williams 2nd Lt. E. Gavrich

MISSING—PACIFIC REGIONS

1st Lt. L. B. Price 2nd Lt. J. D. Sorden

2nd Lt. W. F. Lambert 1st Lt. G. E. Ashley

1st Lt. J. Thompson 2nd Lt. E. H. Helms

2nd Lt. R. S. Stenhey 1st Lt. W. P. B. Ringham

Capt. J. W. L. Benbow 2nd Lt. W. R. Martin, Jr.

2nd Lt. H. M. Brandiss 2nd Lt. A. L. Smith, Jr.

2nd Lt. H. H. Elfer 1st Lt. J. E. Thomas

1st Lt. W. W. Wyatt 2nd Lt. W. H. Brewer

1st Lt. G. F. Faivre 2nd Lt. G. W. Payor

2nd Lt. J. L. Welxel, Jr. 2nd Lt. R. F. Anderson

FO L. H. Goldman son

2nd Lt. J. C. Hecker 1st Lt. A. T. Falgout

2nd Lt. A. Wadowski tore

1st Lt. Q. H. Towne

Permanent A. T. C.

Should commercial airlines expand as rapidly as present plans would indicate, the Army's Air Transport Command would be cut down to a peace-time nucleus of 500 planes or less, Lt. Gen. Harold L. George, commanding general of the ATC, said this week.

Although the Navy has announced no plans with respect to the retention on a permanent basis of the Naval Air Transport Service, the Army intends to place its ATC on a permanent basis.

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Army Promotions

The following temporary promotions in the Army of the United States have been announced by the War Department:

Lt. Col. to Colonel
J. H. Sams, AC
B. Lay, Jr., AC
M. Edwards, MC
D. J. Almy, FD
M. N. Fulton, MC
O. B. Powers, Inf.,
AUS

Maj. to Lt. Colonel
H. V. Tilden, AC
W. D. Taylor, SC
H. N. Brownson, OD
R. L. Taylor, AC
G. F. Bryon, AC
J. H. Sams, AC
J. W. Humphries, Inf.
B. E. Murtough, CH
G. L. Matter, CAC
C. P. Roberts, AC
N. C. Evans, AUS
H. W. Anderson, CE,
AUS
W. DeV. Hull, QMC,
AUS
M. W. Ludington,
JAGD

Captain to Major
R. P. McKee, AC
W. H. Melton, AC
R. C. Case, AC
D. J. Powers, AUS

C. O. Shiver, AC
R. B. Steinhour, MAC
C. J. Kurth, MC
L. F. Sadler, AC
W. C. Johnson, AC
J. H. Worme, OD
J. W. Cooney, MC
W. E. Vessey, AC
S. Z. Vogel, MC
F. C. Haralson, AUS
J. J. Friedman, AC
H. E. Martin, AC
Z. T. Zima, AC
C. A. Raffety, QMC
N. Q. Reader, AC
W. H. Renninger, AC
T. F. Baker, AC
W. L. Lyce, AGD
J. T. Lang, CAC
L. C. Harper, AC
G. E. Thomas, AC
C. T. Dockarty, Inf.
R. R. Hose, AC
J. C. Watts, MC
J. P. Cahill, CAC
R. E. Slusser, Inf.
L. L. Leeper, AC
J. N. Brooke, OD,
AUS
W. G. Gebhardt, AUS
F. T. Donahue, OD,
AUS
L. W. Graham, AUS
D. R. Longino, Jr., AC
D. Dennis, QMC
J. T. Leslie, MC

D. R. Brownell, AUS
R. W. Bassett, Sig C
R. M. Lawson, AC
M. Clinton, Jr., MC
K. Chisholm, Jr., Inf.
R. G. Hogan, AC
M. L. Baumgardner,
AC, AUS
H. P. Dawson, OD,
AUS
F. Simiele, OD
E. K. Bryant, DC,
AUS
J. I. Bainer, AC, AUS
C. D'Agostino, OD
W. E. Miller, AC
G. M. Peek, CE
T. J. McMullin, AC
L. W. Scott, AC
L. O'Hern, AC
A. Garner, AC
N. V. Strand, QMC
I. K. Ewalt, OD
G. W. Kirkpatrick,
CE
J. O. Dunn, AC
A. D. Whitney, QMC
W. S. Myers, JAGD
I. R. Shea, TC
L. J. Greenberg, FD
M. F. Finnegan, AC
J. Pomerantz, AC
M. Weiss, MC
M. L. Pettit, AC
M. Weiss, MC
M. L. Pettit, AC
J. R. Stracener, AC

G. B. Broyles, AC
T. I. Spelgner, QMC
J. W. Ault, AC
R. McKellip, AC
C. A. Sheldon, JAGD
C. H. Bindig, OD
J. A. Kyle, Sig C
C. J. Linsley, AGD
J. Pachomski, CE

C. L. Seyfried, OD
C. Levenson, MC
E. D. Baker, DC
J. G. Ayres, Inf.
W. C. Thomas, Ch.
T. A. Craig, OD
D. C. Knapp, JAGD
R. E. Dowd, AC
T. H. Kern, Inf.

Army and Navy Journal 1575 August 25, 1945

Pvt. Roy A. Levesque, FA, recently became the 300,000th soldier to complete the course in Jap fighting conducted at the Pacific Combat Training Center on Oahu, T.H.

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Development of Atomic Bomb

(Following is a continuation, from page 1561 of the ARMY AND NAVY JOURNAL of 18 August, of the text the report on the development of atomic energy for military purposes. The report was prepared by H. D. Smyth, chairman of the Department of Physics of Princeton University, at the request of Maj. Gen. L. R. Groves, USA, who had charge of the atomic bomb project.)

First Demonstration of Artificial Nuclear Disintegration

1.17. Before 1919 no one had succeeded in disturbing the stability of ordinary nuclei or affecting the disintegration rates of those that were naturally radioactive. In 1919 Rutherford showed that high-energy alpha particles could cause an alteration in the nucleus of an ordinary element. Specifically he succeeded in changing a few atoms of nitrogen into atoms of oxygen by bombarding them with alpha particles. The process involved may be written as



meaning that a helium nucleus of mass number 4 (an alpha particle) striking a nitrogen nucleus of mass number 14 produces an oxygen nucleus of mass number 17 and a hydrogen nucleus of mass number 1. The hydrogen nucleus, known as the "proton", is of special importance since it has the smallest mass of any nucleus. Although protons do not appear in natural radioactive processes, there is much direct evidence that they can be knocked out of nuclei.

The Neutron

1.18. In the decade following Rutherford's work many similar experiments were performed with similar results. One series of experiments of this type led to the discovery of the neutron, which will be discussed in some detail since the neutron is practically the theme song of this whole project.

1.19. In 1930 W. Bothe and H. Becker in Germany found that if the very energetic natural alpha particles from polonium fell on certain of the light elements, specifically beryllium, boron or lithium, an unusually penetrating radiation was produced. At first this radiation was thought to be gamma radiation although it was more penetrating than any gamma rays known, and the details of experimental results were very difficult to interpret on this basis. The next important contribution was reported in 1932 by Irene Curie and F. Joliot in Paris. They showed that if this unknown radiation fell on paraffin or any other hydrogen-containing compound it ejected protons of very high energy. This was not in itself inconsistent with the assumed gamma-ray nature of the new radiation, but detailed quantitative analysis of the data became increasingly difficult to reconcile with such an hypothesis. Finally (later in 1932) J. Chadwick in England performed a series of experiments showing that the gamma ray hypothesis was untenable. He suggested that in fact the new radiation consisted of uncharged particles of approximately the mass of the proton, and he performed a series of experiments verifying his suggestion. Such uncharged particles are now called neutrons.

1.20. The one characteristic of neutrons which differentiates them from other subatomic particles is the fact that they are uncharged. This property of neutrons delayed their discovery, makes them very penetrating, makes it impossible to observe them directly, and makes them very important as agents in nuclear change. To be sure, an atom in its normal state is also uncharged, but it is ten thousand times larger than a neutron and consists of a complex system of negatively charged electrons widely spaced around a positively charged nucleus. Charged particles (such as protons, electrons, or alpha particles) and electromagnetic radiations (such as gamma rays) lose energy in passing through matter. They exert electric forces which ionize atoms of the material through which they pass. (It is such ionization processes that make the air electrically conducting in the path of electric sparks and lightning flashes.) The energy taken up in ionization equals the energy lost by the charged particle, which slows down, or by the gamma ray, which is absorbed. The neutron, however, is unaffected by such forces; it is affected only by a very short-range force, i.e., a force that comes into play when the neutron comes very close indeed to an atomic nucleus. This is the kind of force that holds a nucleus together in spite of the mutual repulsion of the positive charges in it. Consequently a free neutron goes on its way unchecked until it makes a "head-on" collision with an atomic nucleus. Since nuclei are very small, such collisions occur but rarely and the neutron travels a long way before colliding. In the case of a collision of the "elastic" type, the ordinary laws of momentum apply as they do in the elastic collision of billiard balls. If the nucleus that is struck is heavy, it acquires relatively little speed, but if it is a proton, which is approximately equal in mass to the neutron, it is projected forward with a large fraction of the original speed of the neutron, which is itself corre-

spondingly slowed. Secondary projectiles resulting from these collisions may be detected, for they are charged and produce ionization. The uncharged nature of the neutron makes it not only difficult to detect but difficult to control. Charged particles can be accelerated, decelerated, or deflected by electric or magnetic fields which have no effect on neutrons. Furthermore, free neutrons can be obtained only from nuclear disintegrations; there is no natural supply. The only means we have of controlling free neutrons is to put nuclei in their way so that they will be slowed and deflected or absorbed by collisions. As we shall see, these effects are of the greatest practical importance.

The Positron and the Deuteron

1.21. The year 1932 brought the discovery not only of the neutron but also of the positron. The positron was first observed by C. D. Anderson at the California Institute of Technology. It has the same mass and the same magnitude of charge as the electron, but the charge is positive instead of negative. Except as a particle emitted by artificially radioactive nuclei, it is of little interest to us.

1.22. One other major discovery marked the year 1932. H. C. Urey, F. G. Brickwedde and G. M. Murphy found that hydrogen had an isotope of mass number 2, present in natural hydrogen to one part in 5,000. Because of its special importance this heavy species of hydrogen is given a name of its own, deuterium, and the corresponding nucleus is called the deuteron. Like the alpha particle it is not one of the fundamental particles but does play an important role in certain processes for producing nuclear disintegration.

Nuclear Structure

1.23. The idea that all elements are made out of a few fundamental particles is an old one. It is now firmly established. We believe that there are three fundamental particles—the neutron, the proton, and the electron. A complete treatise would also discuss the neutrino and the mesotron. The deuteron and alpha particle, which have already been mentioned, are important complex particles.

1.24. According to our present views, the nuclei of all atomic species are made up of neutrons and protons. The number of protons is equal to the atomic number, Z. The number of neutrons, N, is equal to the difference between the mass number and the atomic number, or A-Z. There are two sets of forces acting on these particles, ordinary electric coulomb forces of repulsion between the positive charges and very short-range forces of attraction between all the particles. These last forces are only partly understood, and we shall not attempt to discuss them. Suffice it to say that combined effects of these attractive and repulsive forces are such that only certain combinations of neutrons and protons are stable. If the neutrons and protons are few in number, stability occurs when their numbers are about equal. For larger nuclei, the proportion of neutrons required for stability is greater. Finally, at the end of the periodic table, where the number of protons is over 90 and the number of neutrons nearly 150, there are no completely stable nuclei. (Some of the heavy nuclei are almost stable as evidenced by very long half-lives). If an unstable nucleus is formed artificially by adding an extra neutron or proton, eventually a change to a stable form occurs. Strangely enough, this is not accomplished by ejecting a proton or a neutron but by ejecting a positron or an electron; apparently within the nucleus a proton converts itself to a neutron and positron (or a neutron converts itself into a proton and electron), and the light charged particle is ejected. In other words; the mass number remains the same but the atomic number changes. The stability conditions are not very critical so that for a given mass number, i.e., given total number of protons and neutrons, there may be several stable arrangements of protons and neutrons (at most three or five) giving several isobars. For a given atomic number, i.e., given number of protons, conditions can vary still more widely so that some of the heavy elements have as many as ten or twelve stable isotopes. Some two hundred and fifty different stable nuclei have been identified, ranging in mass number from one to two hundred and thirty-eight and in atomic number from one to ninety-two.

1.25. All the statements we have been making are based on experimental evidence. The theory of nuclear forces is still incomplete, but it has been developed on quantum-mechanical principles sufficiently to explain not only the above observations but more detailed empirical data on artificial radioactivity and on differences between nuclei with odd and even mass numbers.

Artificial Radioactivity

1.26. We mentioned above the emission of positrons or electrons by nuclei seeking stability. Electron emission (beta rays) was already familiar in the study of naturally radioactive substances, but positron emission was not found in the case of such substances. In fact, the general discussion presented above obviously was based in part on information that cannot be presented in this report. We shall, however, give a brief account of the discovery of "artificial" radioactivity and what is now known about it.

1.27. In 1934, Curie and Joliot reported that

certain light elements (boron, magnesium, aluminum) which had been bombarded with alpha particles continued to emit positrons for some time after the bombardment was stopped. In other words, alpha-particle bombardment produced radioactive forms of boron, magnesium, and aluminum. Curie and Joliot actually measured half-lives of 14 minutes, 2.5 minutes, and 3.25 minutes, respectively, for the radioactive substances formed by the alpha-particle bombardment.

1.28. This result stimulated similar experiments all over the world. In particular, E. Fermi reasoned that neutrons, because of their lack of charge, should be effective in penetrating nuclei, especially those of high atomic number which repel protons and alpha particles strongly. He was able to verify his prediction almost immediately, finding that the nucleus of the bombarded atom captured the neutron and that there was thus produced an unstable nucleus which then achieved stability by emitting an electron. Thus, the final, stable nucleus was one unit higher in mass number and one unit higher in atomic number than the initial target nucleus.

1.29. As a result of innumerable experiments carried out since 1934, radioactive isotopes of nearly every element in the periodic table can now be produced. Some of them revert to stability by the emission of positrons, some by the emission of electrons, some by a process known as K-electron capture which we shall not discuss, and a small number (probably three) by alpha particle emission. Altogether some five hundred unstable nuclear species have been observed, and in most cases their atomic numbers and mass numbers have been identified.

1.30. Not only do these artificially radioactive elements play an important role throughout the project with which we are concerned, but their future value in medicine, in "tracer" chemistry, and in many other fields of research can hardly be overestimated.

ENERGY CONSIDERATIONS

Nuclear Binding Energies

1.31. In describing radioactivity and atomic structure we have deliberately avoided quantitative data and have not mentioned any applications of the equivalence of mass and energy which we announced as the guiding principle of this report. The time has now come when we must speak of quantitative details, not merely of general principles.

1.32. We have spoken of stable and unstable nuclei made up of assemblages of protons and neutrons held together by nuclear forces. It is a general principle of physics that work must be done on a stable system to break it up. Thus, if an assemblage of neutrons and protons is stable, energy must be supplied to separate its constituent particles. If energy and mass are really equivalent, then the total mass of a stable nucleus should be less than the total mass of the separate protons and neutrons that go to make it up. This mass difference, then, should be equivalent to the energy required to disrupt the nucleus completely, which is called the binding energy. Remember that we said that the masses of all nuclei were "approximately" whole numbers. It is the small differences from whole numbers that are significant.

1.33. Consider the alpha particle as an example. It is stable; since its mass number is four and its atomic number two it consists of two protons and two neutrons. The mass of a proton is 1.00758 and that of a neutron is 1.00893 (see Appendix 2), so that the total mass of the separate components of the helium nucleus is

$$2 \times 1.00758 + 2 \times 1.00893 = 4.03202$$

whereas the mass of the helium nucleus itself is 4.00260. Neglecting the last two decimal places we have 4.033 and 4.003, a difference of 0.030 mass units. This, then, represents the "binding energy" of the protons and neutrons in the helium nucleus. It looks small, but recalling Einstein's equation, $E = mc^2$, we remember that a small amount of mass is equivalent to a large amount of energy. Actually 0.030 mass units is equal to 4.5×10^{-6} ergs per nucleus or 2.7×10^{10} ergs per gram molecule of helium. In units more familiar to the engineer or chemist, this means that to break up the nuclei of all the helium atoms in a gram of helium would require 1.62×10^{11} gram calories or 190,000 kilowatt hours of energy. Conversely, if free protons and neutrons could be assembled into helium nuclei, this energy would be released.

1.34. Evidently it is worth exploring the possibility of getting energy by combining protons and neutrons or by transmuting one kind of nucleus into another. Let us begin by reviewing present-day knowledge of the binding energies of various nuclei.

Mass Spectra and Binding Energies

1.35. Chemical atomic-weight determinations give the average weight of a large number of atoms of a given element. Unless the element has only one isotope, the chemical atomic weight is not proportional to the mass of individual atoms. The mass spectrograph developed by F. W. Aston and others from the earlier apparatus of J. J. Thomson measures the masses of individual isotopes. Indeed, it was just such measurements that proved the existence of isotopes and showed that on the atomic-weight scale the masses of all atomic species were very nearly whole

numbers. These whole numbers, discovered experimentally, are the mass numbers which we have already defined and which represent the sums of the numbers of the protons and neutrons; their discovery contributed largely to our present views that all nuclei are combinations of neutrons and protons.

1.36. Improved mass spectrograph data supplemented in a few cases by nuclear reaction data have given accurate figures for binding energies for many atomic species over the whole range of atomic masses. This binding energy, B, is the difference between the true nuclear mass, M, and the sum of the masses of all the protons and neutrons in the nucleus. That is

$$B = (ZM_p + NM_n) - M$$

where M_p and M_n are the masses of the proton and neutron, respectively, Z is the number of protons, $N = A - Z$ is the number of neutrons, and M is the true mass of the nucleus. It is more interesting to study the binding energy per particle, B/A, than B itself. Such a study shows that, apart from fluctuations in the light nuclei, the general trend of the binding energy per particle is to increase rapidly to a flat maximum around $A = 60$ (nickel) and then decrease again gradually. Evidently the nuclei in the middle of the periodic table—nuclei of mass numbers 40 to 100—are the most strongly bound. Any nuclear reaction where the particles in the resultant nuclei are more strongly bound than the particles in the initial nuclei will release energy. Speaking in thermochemical terms, such reactions are exothermic. Thus, in general, energy may be gained by combining light nuclei to form heavier ones or by breaking very heavy ones into two or three smaller fragments. Also, there are a number of special cases of exothermic nuclear disintegrations among the first ten or twelve elements of the periodic table, where the binding energy per particle varies irregularly from one element to another.

1.37. So far we seem to be piling one supposition on another. First we assumed that mass and energy were equivalent; now we are assuming that atomic nuclei can be rearranged with a consequent reduction in their total mass, thereby releasing energy which can then be put to use. It is time to talk about some experiments that convinced physicists of the truth of these statements.

Experimental Proof of the Equivalence of Mass and Energy

1.38. As we have already said, Rutherford's work in 1919 on artificial nuclear disintegration was followed by many similar experiments. Gradual improvement in high voltage technique made it possible to substitute artificially produced high-speed ions of hydrogen or helium for natural alpha particles. J. D. Cockcroft and E. T. S. Walton in Rutherford's laboratory were the first to succeed in producing nuclear changes by such methods. In 1932 they bombarded a target of lithium with protons of 700 kilovolts energy and found that alpha particles were ejected from the target as a result of the bombardment. The nuclear reaction which occurred can be written symbolically as



where the subscript represents the positive charge on the nucleus (atomic number) and the superscript is the number of massive particles in the nucleus (mass number). As in a chemical equation, quantities on the left must add up to those on the right; thus the subscripts total four and the superscripts eight on each side.

1.39. Neither mass nor energy has been included in this equation. In general, the incident proton and the resultant alpha particles will each have kinetic energy. Also, the mass of two alpha particles will not be precisely the same as the sum of the masses of a proton and a lithium atom. According to our theory, the totals of mass and energy taken together should be the same before and after the reaction. The masses were known from mass spectra. On the left ($\text{Li}^7 + \text{H}^1$) they totaled 8.0241, on the right (2He^4) 8.0056; so that 0.0185 units of mass had disappeared in the reaction. The experimentally determined energies of the alpha particles were approximately 8.5 million electron volts each, a figure compared to which the kinetic energy of the incident proton could be neglected. Thus 0.5185 units of mass had disappeared and 17 Mev of kinetic energy had appeared. Now 0.0185 units of mass had disappeared and 17 Mev is 27.2×10^{-6} ergs and c is 3×10^{10} cm/sec. (See Appendix 2.) If we substitute these figures into Einstein's equation, $E = mc^2$, on the left side we have 27.2×10^{-6} ergs and on the right side we have 27.6×10^{-6} ergs, so that the equation is found to be satisfied to a good approximation. In other words, these experimental results prove that the equivalence of mass and energy was correctly stated by Einstein.

NUCLEAR REACTIONS

Methods of Nuclear Bombardment

1.40. Cockcroft and Walton produced protons of fairly high energy by ionizing gaseous hydrogen and then accelerating the ions in a transformer-rectifier high-voltage apparatus. A similar procedure can be used to produce high-energy deuterons from deuterium or high-energy alpha particles from helium. Higher energies can be attained by accelerat-

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Development of Atomic Bomb (Continued from Preceding Page)

ing the ions in cyclotrons or Van de Graaf machines. However, to obtain high-energy gamma radiation or—most important of all—high-energy neutrons, nuclear reactions themselves must be used as sources. Radiations of sufficiently high energy come from certain naturally radioactive materials or from certain bombardments. Neutrons are commonly produced by the bombardment of certain elements, notably beryllium or boron, by natural alpha particles, or by bombarding suitable targets with protons or deuterons. The most common source of neutrons is a mixture of radium and beryllium where the alpha particles from radium and its decay products penetrate the Be⁹ nuclei, which then give off neutrons and become stable C¹³ nuclei (ordinary carbon). A frequently used "beam" source of neutrons results from accelerated deuterons impinging on "heavy water" ice. Here the high-speed deuterons strike the target deuterons to produce neutrons and He³ nuclei. Half a dozen other reactions are also used involving deuterium, lithium, beryllium, or boron as targets. Note that in all these reactions the total mass number and total charge number are unchanged.

1.41. To summarize, the agents that are found to initiate nuclear reactions are—in approximate order of importance—neutrons, deuterons, protons, alpha particles, gamma rays and, rarely, heavier particles.

Results of Nuclear Bombardment

1.42. Most atomic nuclei can be penetrated by at least one type of atomic projectile (or by gamma radiation). Any such penetration may result in a nuclear rearrangement in the course of which a fundamental particle is ejected or radiation is emitted or both. The resulting nucleus may be one of the naturally available stable species, or—more likely—it may be an atom of a different type which is radioactive, eventually changing to still a different nucleus. This may in turn be radioactive and, if so, will again decay. The process continues until all nuclei have changed to a stable type. There are two respects in which these artificially radioactive substances differ from the natural ones: many of them change by emitting positrons (unknown in natural radioactivity) and very few of them emit alpha particles. In every one of the cases where accurate measurements have been made, the equivalence of mass and energy has been demonstrated and the mass-energy total has remained constant. (Sometimes it is necessary to invoke neutrinos to preserve mass-energy conservation.)

Notation

1.43. A complete description of a nuclear

reaction should include the nature, mass and energy of the incident particle, also the nature (mass number and atomic number), mass and energy (usually zero) of the target particles, also the nature, mass and energy of the ejected particles or radiation, and finally the nature, mass and energy of the remainder. But all of these are rarely known and for many purposes their complete specification is unnecessary. A nuclear reaction is frequently described by a notation that designates first the target by chemical symbol and mass number if known, then the projectile, then the emitted particle, and then the remainder. In this scheme the neutron is represented by the letter n, the proton by p, the deuteron by d, the alpha particle by α , and the gamma

ray by γ . Thus the radium-beryllium neutron reaction can be written Be⁹(α , n)C¹² and the deuteron-deuteron reaction H²(d, n)He³.

Types of Reaction

1.44. Considering the five different particles (n, p, d, α , γ) both as projectiles and emitted products, we might expect to find twenty-five combinations possible. Actually the deuteron very rarely occurs as a product particle, and the photon initiates only two types of reaction. There are, however, a few other types of reaction, such as (n, 2n), (d, H²), and fission, which bring the total known types to about twenty-five. Perhaps the (n, γ) reaction should be specifically mentioned as it is very important in one process which will concern us. It is often called "radiative capture" since the

neutron remains in the nucleus and only a gamma ray comes out.

Probability and Cross Section

1.45. So far nothing has been said about the probability of nuclear reactions. Actually it varies widely. There is no guarantee that a neutron or proton headed straight for a nucleus will penetrate it at all. It depends on the nucleus and on the incident particle. In nuclear physics, it is found convenient to express probability of a particular event by a "cross section." Statistically, the centers of

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This liberal-minded attitude is in line with the policy the Company has followed throughout the war to give men in the Service the maximum protection possible. In fact, at the beginning of the war, Mr. Montgomery advocated that life insurance companies should, under certain conditions, grant unrestricted coverage to men in military service.

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American Express TRAVELERS CHEQUES

Development of Atomic Bomb

(Continued from Preceding Page)

the atoms in a thin foil can be considered as points evenly distributed over a plane. The center of an atomic projectile striking this plane has geometrically a definite probability of passing within a certain distance (r) of one of these points. In fact, if there are n atomic centers in an area A of the plane, this probability is $n\pi r^2/A$, which is simply the ratio of the aggregate area of circles of radius r drawn around the points to the whole area. If we think of the atoms as impenetrable steel discs and the impinging particle as a bullet of negligible diameter, this ratio is the probability that the bullet will strike a steel disc, i.e., that the atomic projectile will be stopped by the foil. If it is the fraction of impinging atoms getting through the foil which is measured, the result can still be expressed in terms of the equivalent stopping cross section of the atoms. This notion can be extended to any interaction between the impinging particle and the atoms in the target. For example, the probability that an alpha particle striking a beryllium target will produce a neutron can be expressed as the equivalent cross section of beryllium for this type of reaction.

1.46. In nuclear physics it is conventional to consider that the impinging particles have negligible diameter. The technical definition of cross section for any nuclear process is therefore:

number of processes occurring	(number of target nuclei per cm^2)
number of incident particles	\times (nuclear cross section in cm^2)

It should be noted that this definition is for the cross section per nucleus. Cross sections can be computed for any sort of process, such as capture, scattering, production of neutrons, etc. In many cases, the number of particles emitted or scattered in nuclear processes is not measured directly; one merely measures the attenuation produced in a parallel beam of incident particles by the lateral position of a known thickness of a particular material. The cross section obtained in this way is called the total cross section and is usually denoted by σ .

1.47. As indicated in paragraph 1.11, the typical nuclear diameter is of the order of 10^{-13} cm. We might therefore expect the cross sections for nuclear reactions to be of the order of $\pi d^2/4$ or roughly 10^{-24} cm^2 and this is the unit in which they are usually expressed. Actually the observed cross sections vary enormously. Thus for slow neutrons absorbed by the (n, γ) reaction the cross section in some cases is as much as 1000×10^{-24} cm^2 , while the cross sections for transmutations by gamma-ray absorption are in the neighborhood of $(1/1000) \times 10^{-24}$ cm^2 .

FEASIBILITY OF ATOMIC POWER IN 1939

Small Scale of Experiments

1.48. We have talked glibly about the equivalence of mass and energy and about nuclear reactions, such as that of protons on lithium, where energy was released in relatively large amounts. Now let us ask why atomic power plants did not spring up all over the world in the thirties. After all, if we can get 2.76×10^5 ergs from an atom of lithium struck by a proton, we might expect to obtain approximately half a million kilowatt hours by combining a gram of hydrogen with seven grams of lithium. It looks better than burning coal. The difficulties are in producing the high-speed protons and in controlling the energy produced. All the experiments we have been talking about have been done with very small quantities of material, large enough in numbers of atoms, to be sure, but in terms of ordinary masses infinitesimal—not tons or pounds or grams, but fractions of micrograms. The amount of energy used up in the experiment was always far greater than the amount generated by the nuclear reaction.

1.49. Neutrons are particularly effective in producing nuclear disintegration. Why weren't they used? If their initial source was an ion beam striking a target, the limitations discussed in the last paragraph applied. If a radium and beryllium source was to be used, the scarcity of radium was a difficulty.

The Need of a Chain Reaction

1.50. Our common sources of power, other than sunlight and water power, are chemical reactions—usually the combustion of coal or oil. They release energy as the result of rearrangements of the outer electronic structures of the atoms, the same kind of process that supplies energy to our bodies. Combustion is always self-propagating; thus lighting a fire with a match releases enough heat to ignite the neighboring fuel, which releases more heat which ignites more fuel, and so on. In the nuclear reactions we have described this is not generally true; neither the energy released nor the new particles formed are sufficient to maintain the reaction. But we can imagine nuclear reactions emitting particles of the same sort that initiate them and in sufficient numbers to propagate the reaction in neighboring nuclei. Such a self-propagating reaction is called a "chain reaction" and such conditions must be achieved

if the energy of the nuclear reactions with which we are concerned is to be put to large-scale use.

Period of Speculation

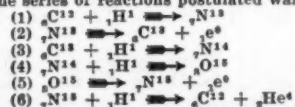
1.51. Although there were no atomic power plants built in the thirties, there were plenty of discoveries in nuclear physics and plenty of speculation. A theory was advanced by H. Bethe to explain the heat of the sun by a cycle of nuclear changes involving carbon, hydrogen, nitrogen, and oxygen, and leading eventually to the formation of helium.* This theory is now generally accepted. The discovery of a few $(n, 2n)$ nuclear reactions (i.e., neutron-produced and neutron-producing reactions) suggested that a self-multiplying chain reaction might be initiated under the right conditions. There was much talk of atomic power and some talk of atomic bombs. But the last great step in this preliminary period came after four years of stumbling. The effects of neutron bombardment of uranium, the most complex element known, had been studied by some of the ablest physicists. The results were striking but confusing. The story of their gradual interpretation is intricate and highly technical, a fascinating tale of theory and experiment. Passing by the earlier inadequate explanations, we shall go directly to the final explanation, which, as so often happens, is relatively simple.

Discovery of Uranium Fission

1.52. As has already been mentioned, the neutron proved to be the most effective particle for inducing nuclear changes. This was particularly true for the elements of highest atomic number and weight where the large nuclear charge exerts strong repulsive forces on deuteron or proton projectiles but not on uncharged neutrons. The results of the bombardment of uranium by neutrons had proved interesting and puzzling. First studied by Fermi and his colleagues in 1934, they were not properly interpreted until several years later.

1.53. On January 16, 1939 Niels Bohr of Copenhagen, Denmark, arrived in this country to spend several months in Princeton, N. J., and was particularly anxious to discuss some abstract problems with A. Einstein. (Four years later Bohr was to escape from Nazi-occupied Denmark in a small boat.) Just before Bohr left Denmark two of his colleagues, O. R. Frisch and L. Meitner (both refugees from Germany), had told him their guess that the absorption of a neutron by a uranium nucleus sometimes caused that nucleus to split into approximately equal parts with the release of enormous quantities of energy, a process that soon began to be called nuclear "fission." The occasion for this hypothesis was the important discovery of O. Hahn and F. Strassmann in Germany (published in *Naturwissenschaften* in early January 1939) which proved that an isotope of barium was produced by neutron bombardment of uranium. Immediately on arrival in the United States Bohr communicated this idea to his former student J. A. Wheeler and others at Princeton, and from them the news spread by word of mouth to neighboring physicists including E. Fermi at Columbia University. As a result of conversations between Fermi, J. R. Dunning, and G. B. Pegram, a search was undertaken at Columbia for the heavy pulses of ionization that would be expected from the flying fragments of the uranium nucleus. On January 26, 1939 there was a Conference on Theoretical Physics at Washington, D. C., sponsored jointly by the George Washington University and the Carnegie Institution of Washington. Fermi left New York to attend this meeting before the Columbia fission experiments had been tried. At the meeting Bohr and Fermi discussed the problem of fission, and in particular Fermi mentioned the possibility that neutrons might be emitted during the process. Although this was only a guess, its implication of the possibility of a chain reaction was obvious. A number of sensational articles were published in the press on this subject. Before the meeting in Washington was over, several other experiments to confirm fission had been initiated, and positive experimental confirmation was reported from four laboratories (Columbia University, Carnegie Institution of Washington, Johns Hopkins University, University of California) in the February 15, 1939 issue of the *Physical Review*. By this time Bohr had heard that similar experiments had been made in his laboratory in Copenhagen about January 15th. (Letter by Frisch to *Nature* dated January 16, 1939 and appearing in the February 18th issue.) F. Joliot in Paris had also published his first results in the *Comptes Rendus* of January 30, 1939. From this time on there was a steady flow of papers on the subject of fission, so that by the time (December 6, 1939) Turner wrote a review article on the subject in the *Reviews of Modern*

*The series of reactions postulated was



The net effect is the transformation of hydrogen into helium and positrons (designated as e^+) and the release of about thirty million electron volts energy.

Physics nearly one hundred papers had appeared. Complete analysis and discussion of these papers have appeared in Turner's article and elsewhere.

General Discussion of Fission

1.54. Consider the suggestion of Frisch and Meitner in the light of the two general trends that had been discovered in nuclear structure:—first, that the proportion of neutrons goes up with atomic number; second, that the binding energy per particle is a maximum for the nuclei of intermediate atomic number. Suppose the U-238 nucleus is broken exactly in half; then, neglecting the mass of the incident neutron, we have two nuclei of atomic number 46 and mass number 119. But the heaviest stable isotope of palladium ($Z=46$) has a mass number of only 110. Therefore to reach stability each of these imaginary new nuclei must eject nine neutrons, becoming Pd^{110} nuclei; or four neutrons in each nucleus must convert themselves to protons by emitting electrons, thereby forming stable tin nuclei of mass number 119 and atomic number 50; or a combination of such ejections and conversions must occur to give some other pair of stable nuclei. Actually, as was suggested by Hahn and Strassmann's identification of barium ($Z=56$, $A=135$ to 140) as a product of fission, the split occurs in such a way as to produce two unequal parts of mass numbers about 140 and 90 with the emission of a few neutrons and subsequent radioactive decay by electron emission until stable nuclei are formed. Calculations from binding-energy data show that any such rearrangement gives an aggregate resulting mass considerably less than the initial mass of uranium nucleus, and thus that a great deal of energy must be released.

1.55. Evidently, there were three major implications of the phenomenon of fission: the release of energy, the production of radioactive atomic species and the possibility of a neutron chain reaction. The energy release might reveal itself in kinetic energy of the fission fragments and in the subsequent radioactive disintegration of the products. The possibility of a neutron chain reaction depended on whether neutrons were in fact emitted—a possibility which required investigation.

1.56. These were the problems suggested by the discovery of fission, the kind of problem reported in the journals in 1939 and 1940 and since then investigated largely in secret. The study of the fission process itself, including production of neutrons and fast fragments, has been largely carried out by physicists using counters, cloud chambers, etc. The study and identification of the fission products has been carried out largely by chemists, who have had to perform chemical separations rapidly even with sub-microscopic quantities of material and to make repeated determinations of the half-lives of unstable isotopes. We shall summarize the state of knowledge as of June 1940. By that time the principal facts about fission had been discovered and revealed to the scientific world. A chain reaction had not been obtained, but its possibility—at least in principle—was clear and several paths that might lead to it had been suggested.

STATE OF KNOWLEDGE IN JUNE 1940

Definite and Generally-Known Information on Fission

1.57. All the following information was generally known in June 1940, both here and abroad:

(1) That three elements—uranium, thorium, and protoactinium—when bombarded by neutrons sometimes split into approximately equal fragments, and that these fragments were isotopes of elements in the middle of the periodic table, ranging from selenium ($Z=34$) to lanthanum ($Z=57$).

(2) That most of these fission fragments were unstable, decaying radioactively by successive emission of beta particles through a series of elements to various stable forms.

(3) That these fission fragments had very great kinetic energy.

(4) That fission of thorium and protoactinium was caused only by fast neutrons (velocities of the order of thousands of miles per second).

(5) That fission in uranium could be produced by fast or slow (so-called thermal-velocity) neutrons; specifically, that thermal neutrons caused fission in one isotope, U-235, but not in the other, U-238, and that fast neutrons had a lower probability of causing fission in U-235 than thermal neutrons.

(6) That at certain neutron speeds there was a large capture cross section in U-238 producing U-239 but not fission.

(7) That the energy released per fission of a uranium nucleus was approximately 200 million electron volts.

(8) That high speed neutrons were emitted in the process of fission.

(9) That the average number of neutrons released per fission was somewhere between one and three.

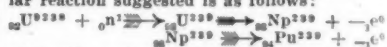
(10) That high-speed neutrons could lose energy by inelastic collision with uranium nuclei without any nuclear reaction taking place.

(11) That most of this information was consistent with the semi-empirical theory of nuclear structure worked out by Bohr and Wheeler and others; this suggested that predictions based on this theory had a fair

chance of success.

Suggestion of Plutonium Fission

1.58. It was realized that radiative capture of neutrons by U-238 would probably lead by two successive beta-ray emissions to the formation of a nucleus for which $Z=94$ and $A=239$. Consideration of the Bohr-Wheeler theory of fission and of certain empirical relations among the nuclei by L. A. Turner and others suggested that this nucleus would be a fairly stable alpha emitter and would probably undergo fission when bombarded by thermal neutrons. Later the importance of such thermal fission to the maintenance of the chain reaction was foreshadowed in private correspondence and discussion. In terms of our present knowledge and notation the particular reaction suggested is as follows:



where Np and Pu are the chemical symbols now used for the two new elements, neptunium and plutonium; n^1 represents the neutron, and e^- represents an ordinary (negative) electron. Plutonium 239 is the nucleus rightly guessed to be fissionable by thermal neutrons. It will be discussed fully in later chapters.

General State of Nuclear Physics

1.59. By 1940 nuclear reactions had been intensively studied for over ten years. Several books and review articles on nuclear physics had been published. New techniques had been developed for producing and controlling nuclear projectiles, for studying artificial radioactivity, and for separating sub-microscopic quantities of chemical elements produced by nuclear reactions. Isotope masses had been measured accurately. Neutron-capture cross sections had been measured. Methods of slowing down neutrons had been developed. Physiological effects of neutrons had been observed; they had even been tried in the treatment of cancer. All such information was generally available; but it was very incomplete. There were many gaps and many inaccuracies. The techniques were difficult and the quantities of materials available were often sub-microscopic. Although the fundamental principles were clear, the theory was full of unverified assumptions and calculations were hard to make. Predictions made in 1940 by different physicists of equally high ability were often at variance. The subject was in all-too-many respects an art, rather than a science.

SUMMARY

1.60. Looking back on the year 1940, we see that all the prerequisites to a serious attack on the problem of producing atomic bombs and controlling atomic power were at hand. It had been proved that mass and energy were equivalent. It had been proved that the neutrons initiating fission of uranium reproduced themselves in the process and that therefore a multiplying chain reaction might occur with explosive force. To be sure, no one knew whether the required conditions could be achieved, but many scientists had clear ideas as to the problems involved and the directions in which solutions might be sought. The next chapter of this report gives a statement of the problems and serves as a guide to the developments of the past five years.

CHAPTER II

STATEMENT OF THE PROBLEM

Introduction

2.1 From the time of the first discovery of the large amounts of energy released in nuclear reactions to the time of the discovery of uranium fission, the idea of atomic power or even atomic bombs was discussed off and on in scientific circles. The discovery of fission made this talk seem much less speculative, but realization of atomic power still seemed in the distant future and there was an instinctive feeling among many scientists that it might not, in fact, ever be realized. During 1939 and 1940 many public statements, some of them by responsible scientists, called attention to the enormous energy available in uranium for explosives and for controlled power, so that U-235 became a familiar byword indicating great things to come. The possible military importance of uranium fission was called to the attention of the government (see Chapter III), and in a conference with representatives of the Navy Department in March 1939 Fermi suggested the possibility of achieving a controllable reaction using slow neutrons or a reaction of an explosive character using fast neutrons. He pointed out, however, that the data then available might be insufficient for accurate predictions.

2.2 By the summer of 1940 it was possible to formulate the problem fairly clearly, although it was still far from possible to answer the various questions involved or even to decide whether a chain reaction ever could be obtained. In this chapter we shall give a statement of the problem in its entirety. For purposes of clarification we may make use of some knowledge which actually was not acquired until a later date.

The Chain-Reaction Problem

2.3. The principle of operation of an atomic bomb or power plant utilizing uranium fission is simple enough. If one neutron causes a fission that produces more than one new neutron, the number of fissions may increase

(Please turn to Next Page)

Development of Atomic Bomb (Continued from Preceding Page)

tremendously with the release of enormous amounts of energy. It is a question of probabilities. Neutrons produced in the fission process may escape entirely from the uranium, may be captured by uranium in a process not resulting in fission, or may be captured by an impurity. Thus the question of whether a chain reaction does or does not go depends on the result of a competition among four processes:

- (1) escape,
- (2) non-fission capture by uranium,
- (3) non-fission capture by impurities,
- (4) fission capture.

If the loss of neutrons by the first three processes is less than the surplus produced by the fourth, the chain reaction occurs; otherwise it does not. Evidently any one of the first three processes may have such a high probability in a given arrangement that the extra neutrons created by fission will be insufficient to keep the reaction going. For example, should it turn out that process (2)—non-fission capture by uranium—has a much higher probability than fission capture, there would presumably be no possibility of achieving a chain reaction.

24. An additional complication is that natural uranium contains three isotopes: U-234, U-235, and U-238, present to the extent of approximately 0.006, 0.7, and 99.3 percent, respectively. We have already seen that the probabilities of processes (2) and (4) are different for different isotopes. We have also seen that the probabilities are different for neutrons of different energies.

25. We shall now consider the limitations imposed by the first three processes and how their effects can be minimized.

Neutron Escape; Critical Size

26. The relative number of neutrons which escape from a quantity of uranium can be minimized by changing the size and shape. In a sphere any surface effect is proportional to the square of the radius, and any volume effect is proportional to the cube of the radius. Now the escape of neutrons from a quantity of uranium is a surface effect depending on the area of the surface, but fission capture occurs throughout the material and is therefore a volume effect. Consequently the greater the amount of uranium, the less probable it is that neutron escape will predominate over fission capture and prevent a chain reaction. Loss of neutrons by non-fission capture is a volume effect like neutron production by fission capture, so that increase in size makes no change in its relative im-

portance.

27. The critical size of a device containing uranium is defined as the size for which the production of free neutrons by fission is just equal to their loss by escape and by non-fission capture. In other words, if the size is smaller than critical, then—by definition—no chain reaction will sustain itself. In principle it was possible in 1940 to calculate the critical size, but in practice the uncertainty of the constants involved was so great that the various estimates differed widely. It seemed not improbable that the critical size might be too large for practical purposes. Even now estimates for untried arrangements vary somewhat from time to time as new information becomes available.

Use of a Moderator to Reduce Non-fission Capture

28. In Chapter I we said that thermal neutrons have the highest probability of producing fission of U-235 but we also said that the neutrons emitted in the process of fission had high speeds. Evidently it was an oversimplification to say that the chain reaction might maintain itself if more neutrons were created by fission than were absorbed. For the probability both of fission capture and of non-fission capture depends on the speed of the neutrons. Unfortunately, the speed at which non-fission capture is most probable is intermediate between the average speed of neutrons emitted in the fission process and the speed at which fission capture is most probable.

29. For some years before the discovery of fission, the customary way of slowing down neutrons was to cause them to pass through material of low atomic weight, such as hydrogenous material. It was E. Fermi and L. Szilard who proposed the use of graphite as a moderator for a chain reaction. The process of slowing down or moderation is simply one of elastic collisions between high-speed particles and particles practically at rest. The more nearly identical the masses of neutron and struck particle the greater the loss of kinetic energy by the neutron. Therefore the light elements are most effective as "moderators," i.e., slowing down agents, for neutrons.

30. It occurred to a number of physicists that it might be possible to mix uranium with a moderator in such a way that the high-speed fission neutrons, after being ejected from uranium and before re-encountering uranium nuclei, would have their speeds reduced below the speeds for which non-fission capture is highly probable. Evidently the characteristics of a good moderator are that it should be of low atomic weight and that it should have little or no

tendency to absorb neutrons. Lithium and boron are excluded on the latter count. Helium is difficult to use because it is a gas and forms no compounds. The choice of moderator therefore lay between hydrogen, deuterium, beryllium, and carbon. Even now no one of these substances can be excluded from the list of practical possibilities.

Use of a Lattice to Reduce Non-fission Capture

31. The general scheme of using a moderator mixed with the uranium was pretty obvious. A specific manner of using a moderator was first suggested in this country, so far as we can discover, by Fermi and Szilard. The idea was to use lumps of uranium of considerable size imbedded in a matrix of moderator material. Such a lattice can be shown to have real advantages over a homogeneous mixture. As the constants were more accurately determined, it became possible to calculate theoretically the type of lattice that would be most effective.

Reduction of Non-fission Capture by Isotope Separation

32. In Chapter I it was stated that for neutrons of certain intermediate speeds (corresponding to energies of a few electron volts) U-238 has a large capture cross section

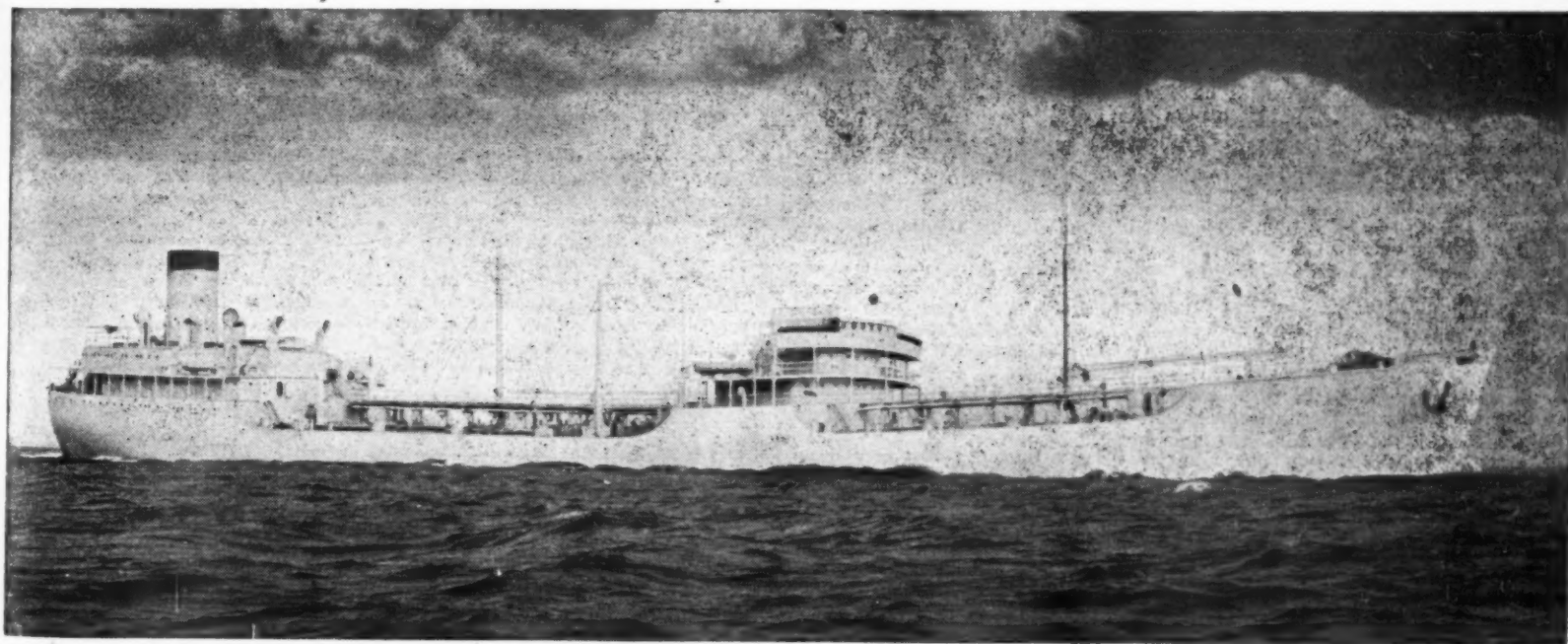
for the production of U-239 but not for fission. There is also a considerable probability of inelastic (i.e., non-capture-producing) collisions between high-speed neutrons and U-238 nuclei. Thus the presence of the U-238 tends both to reduce the speed of the fast neutrons and to effect the capture of those of moderate speed. Although there may be some non-fission capture by U-235, it is evident that if we can separate the U-235 from the U-238 and discard the U-238, we can reduce non-fission capture and can thus promote the chain reaction. In fact, the probability of fission of U-235 by high-speed neutrons may be great enough to make the use of a moderator unnecessary once the U-238 has been removed. Unfortunately, U-235 is present in natural uranium only to the extent of about one part in 140. Also, the relatively small difference in mass between the two isotopes makes separation difficult. In fact, in 1940 no large-scale separation of isotopes had ever been achieved except for hydrogen, whose two isotopes differ in mass by a factor of two. Nevertheless, the possibility of separating U-235 (Please turn to Page 1585)

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SERVICE NEWS AND GOSSIP

► **FOREIGN AFFAIRS.** So explicit were the orders given by General of the Army MacArthur to the Japanese, so meticulously as they apparently have been carried out, that if any bloodshed be spent when our landing is effected in the conquered islands, it promises to be, at least initially, only of a sporadic, and not of an organized, character. To assure himself that there would be no interference with our airborne troops when they descend from the skies, nor with our fleet when it enters Tokyo Bay, General MacArthur, in accordance with one of his requirements, dispatched observation planes over the evacuated areas and Fleet Admiral Nimitz will do likewise over the waters his ships will enter. Such preliminary reports as have been received disclose that the Japanese government has carried out immediately the orders it received. Until the landing is actually effected, however, there will continue to be apprehension since the Kwangtung Army Gang is described as still recalcitrant and convinced that the Army could make good its boast to repel invasion and conduct a war for a hundred years. Coupled with the disposition of this irreconcilable faction to resist is the fact that the Japanese are emotional and excitable, and have the tradition of military service. Hence the withdrawal by the Japanese High Command under General MacArthur's orders, of all military, naval and air forces from the first area of occupation, that at Atsugi, southwest of Tokyo, and the announcement that large police forces would guard the area evacuated; and, further to prevent disorder, the promise that the Government would provide for the distribution of food, a promise that would appeal to a people represented as starving in consequence of the exhaustion of the Government's food stocks, the destruction of 6 of the 7 million tons of Japanese mercantile shipping, and the closeness of the air and sea blockade which our forces instituted.

The extensive precautions being taken are not only in compliance with the directions of General MacArthur, who bluntly served notice he would tolerate no interference with his troops and Admiral Nimitz's Fleet, but are in accordance with the desire and purpose of the Tokyo authorities. Their attitude demonstrated that the sooner our occupation was effected the better they would be pleased. The presence of Allied troops at strategic points would mean the failure of any attempt to overthrow the Emperor and the traditional rule of Japan, which is the high object of the group around the Throne led by such men as former Grand Chamberlain Matsudaira. Thus the anomalous situation has arisen where the Allies will maintain in power the Emperor whose divine authority no longer has influence, particularly with the military leaders, who know from the Potsdam Declaration that death is the doom that awaits them.

Because of the peril involved in the initial landings, General MacArthur perfected plans to overcome resistance. The airborne troops selected to descend at Atsugi tomorrow will be in strength and will have powerful air coverage, and transports carrying reinforcements and supported by the Fleet, are now in readiness to enter Sagami Bay, which is ten miles from Atsugi. In brief, General MacArthur and Admiral Nimitz are closely cooperating, and if any attack should be made upon our occupational force they will be ready to counter it. It may be said that there is implicit confidence the Government will carry out its pledges, but it recognizes it may be unable to control some of its forces and the people, and has frankly said as much. Under the circumstances we must be and are prepared for an eventuality that we hope will not happen. Like safeguards will be arranged for other strategic points which the Allies will occupy. It is in fact a sullen and resentful people that we have to deal with, and until they become accustomed to our presence, and are supplied with food, which General MacArthur is arranging to furnish, there will be danger of at least sporadic attacks upon our forces.

Recognizing that the defeat of Japan was predominantly a sea-air achievement, the Fleet will participate equally with General of the Army MacArthur in receiving the surrender of the Emperor. Fleet Admiral Nimitz will sign for the United States, and further to honor the Navy, the ceremony will occur aboard the "Missouri," gratuitously designated because it bears the name of President Truman's home state. General MacArthur will sign as Supreme Commander of the Allied Forces. Signing also will be the representatives of all the allied nations having territories in the Pacific and Far East. Who will be designated to sign for Japan is not yet known, but if it be not the Emperor it will be General Prince Higashi-Kuni, a member of the Imperial Household, who is head of the new Ministry, and he will be empowered by Hirohito to speak for him. Thus there will be left no doubt in the Japanese and Far Eastern mind that the entire imperial and governmental authority is accepting Allied will.

With Allied occupation in which America will predominate, a new distribution of world power will be emphasized, and new problems in international relations menacing to world peace will arise to plague international relations. No longer will there be in the Far East a balance between the conflicting interests of Great Britain, France, Russia and to a lesser extent the United States, which the defeated enemy represented prior to the Global War. Rather there has come the stark reality that dominant in the Pacific is the United States and dominant in Asia the Soviet Union. It is the adjustments those two countries will attempt to make that concern above all, China as well as Britain, France and the Netherlands and Portugal, which have territory in that part of the world. That the British and French realize that the regaining of their losses is important to their existence as world Empires is apparent from the statement contained in the initial speech on Britain's foreign policy made by the new Foreign Minister Bevin in Parliament this week that the problem of resettlement in the Far East "is no less serious from the point of view of the peace of the world than the European problem," and by the demands of General de Gaulle during his conferences with President Truman and Secretary Byrnes that to France be restored Indo-China and all her pre-war China Sea and Pacific Islands in full sovereignty. Premier Soong of the Chung King Government, also in Washington, is anxious that within the limits of the treaty just concluded with Russia, Chinese sovereignty and territorial rights shall be respected and safeguarded; which involves the question of how the Soviet Union will interpret and apply the concessions obtained in Manchuria and also the status of Hong Kong and Indo-China. In these matters, Soong is depending upon the aid of the United States. The extent to which we are figuring in the adjustments to be made Mr. Bevin revealed when he said as to Hong Kong that "in agreement with our Chinese and American Allies our territory will be returned to us." Russia presents in Manchuria, however, a knottier problem, for it is noted that her troops have overrun this province and in possession can control not only the Trans-Man-

churian railroad, but reestablish a base at Port Arthur. Thus while China would have nominal sovereignty, actual control would be exercised by the Soviet Union. Moscow, too, has obtained Chinese recognition of the Mongolian Soviet Republic. Therefore, obtained for Siberia is a zone of protection practically identical with that acquired for European Russia by the creation of satellite states upon its borders. For Siberian protection also Russian troops have reoccupied the southern half of Sakhalin, ceded to Japan as a result of the war of forty years ago, and at Potsdam, Marshal Stalin raised the question of the allocation of colonial territories to his Government which should be under the supervision of the Trustee Organization created by the San Francisco Charter. We and the British are willing for Japan to cede southern Sakhalin and some of the Kurile Islands to the Soviet Union, but it will be another matter should the Kremlin seek to acquire islands in the Pacific even though that interest be limited to participation in a trusteeship. The United States has its own safety to look out for, and to quote a broadcast by Fleet Admiral King made this week, no matter how altruistic America becomes, it must never let national security depend solely on the good will of other nations, and must retain control of all sea areas vital to our defenses. Bitter experience and exact understanding of the perplexing and perilous problems the Global War left unsettled, have impressed upon this talented leader that the plane, the rocket, the atomic bomb and the long cruising range of the Fleet necessitate our domination of areas both in the Atlantic and the Pacific far from our shores. Hence the view of the late President Roosevelt that the Monroe Doctrine extended to western Iceland and down the degree of longitude from that point through the South Atlantic, and his proposal that we shall have a base at Dakar, which, it is known General de Gaulle is willing to share; the insistence of the Navy upon bases stretching across the mid-Pacific, and our acquisition of bases in the South Pacific, which Australia has stated she would welcome, and which de Gaulle is willing to grant on an equal share basis in French Islands with recognition of French sovereignty.

Disturbing to peace is the danger of civil war in China. A composition between Chung King and the Northwest Communist Faction seems almost impossible, but the great powers are acting in unison to compel it. General MacArthur is ordering the occupation of ports upon which the Yenan group has its eyes, and his forces will make a demonstration which will reinforce a notice in which the Big Four, including Russia, will join, insisting that world interest requires the avoidance of civil strife in China. In addition, the powers peremptorily will reject the Yenan claim to sign the Japanese surrender documents. These measures and attitudes it is hoped will cause the factions to consent to some kind of a combination.

The somber description Mr. Bevin gave of the situation in Europe reveals the difficulties and conflicts which continue to face the Big Three in connection with the solution of the economic and social problems of the Old World. He admitted that Britain is extremely poor and the work of reconstruction that has to be done in order to enable England to take a proper place in assisting other countries will be very heavy. The smaller Allies are faced with the task of completely rebuilding their economic life and making good the gap the war created. The attitude of the people taught to resist authority must be changed to obedience to law. Urged to produce as little as possible in order to hamper the Germans, they must be taught to acquire the habits of work and production, and displaced persons and prisoners of war must be returned to their homes and induced to labor. Obviously, from what Mr. Bevin said, it is upon the United States that Europe will have to depend for the necessities upon which political order only can be founded. Regretted by all of Europe is the termination of Lend-Lease ordered this week by President Truman and the cancellation of all outstanding contracts except where the Allied Governments agree to take them over or where it is to the interest of the United States to complete them. The total outlay under Lend-Lease was \$48,208,000,000, with reverse Lend-Lease amounting to \$5,500,000,000. Two alternatives face our needy Allies, one to put cash on the barrel head to pay for food and other requirements, and the second is to obtain loans from the Export-Import Bank. General de Gaulle has asked for a loan of \$240,000,000, Russia is suggesting a preliminary loan of \$1,000,000,000, China wants a large sum, and the size of Britain's application has not been as yet revealed. When Congress reassembles, the President will ask for the repeal of the Johnson Law, which forbids private institutions to make loans to World War I debt defaulters. Secretary Bevin said that UNRRA which England will support only as long as she can afford to do so, is a kind of dole which cannot continue indefinitely. However, the President is planning to recommend to Congress that another billion dollars be contributed by us to this form of relief. Mr. Bevin stated the obvious fact that political policy must depend upon economic condition, and it is in accord with this principle that as far as we safely can and in accordance with our own interests, the President proposes to continue to extend help, mostly in the form of loans rather than charity, to the starving people of the world.

Politically, in Europe, differences in policy persist in embarrassing the relations of the Big Four, if France can be so classed in this combination. Britain, the United States and France have agreed to supervise the elections to occur in Greece. Russia declined to take part because of her position that she would not intervene in the internal affairs of any country, which certainly is not true of Poland nor of Roumania, Hungary, Bulgaria and Yugo-Slavia. Britain and the United States have announced their dissatisfaction with the Georgieff Government of Bulgaria and with the kind of elections planned for that country. Nor will they recognize the Governments of Roumania and Hungary, which were set up by Russia. Consideration is being given to a request of the Roumanian government that the Big Three aid in the formation of a more representative government. As that government is the creature of Moscow, this request was undoubtedly inspired by the Kremlin, and it is accepted as another indication of the desire of Marshal Stalin to conciliate the United States and Great Britain, with due regard for the interest of his own country. There are complaints at the plans for an election to be held in Yugo-Slavia, which contemplate not the participation of all parties, but only that of the Communists. In Poland, with the consent of the United States and Great Britain, Russia will keep troops ostensibly to protect communications with her occupying forces in Germany, but it is noted that the presence of such troops if continued during an election naturally would have a large influence upon the way the Polish vote is cast. Mr. Bevin pointed out that elections in the Balkan States should not be measured by elections in Britain, and this view maintains in Washington. So we may well be prepared for the prospect that the kind of democratic governments we expect will not be installed. However, President Truman is represented as in agreement with England that we must be on guard to prevent one form of totalitarianism from being substituted for that which we eradicated by war.

The question of the status of Tangier has been preliminarily resolved by the decision to internationalize it in accordance with the Statute of 1923. Whether Spain will be permitted to participate in the policing of this port is to be determined

later, since the Allies do not forget the unilateral control she established during the war. The disfavor thus shown Spain further will tend to undermine General Franco's authority with his people and is another step toward his overthrow, which the Big Four desire. Meanwhile, it is interesting to note that by our participation in the internationalization of Tangier, we have assumed another responsibility, that of taking a part in the policing of this African city.

► ARMY AIR FORCES. Air Technical Service Command: Weather forecasting has been added to the score of services supplied the American public by radar, according to Headquarters, Air Technical Service Command. With new developments in airborne radar, prompt and accurate pre-flight weather information is available in any area where flight is scheduled, said Col. Hobart R. Yeager, chief of the Radio and Radar Subdivision, ATSC.

Key to this latest electronic development is the radar weather reconnaissance aircraft, a specially equipped bomber which has been in operational use since last August.

A 450 pound piece of radar equipment, developed by Aircraft Radio Laboratories at Wright Field and originally used for blind bombing, has been readjusted to provide meteorological as well as navigational data.

AAF School of Aviation Medicine: From this institution at Texas comes assurance that with the Japanese surrender, more planes will be available for bringing our wounded back to the States for hospitalization. The duties of a flight nurse will increase rather than decline.

According to Lt. Col. Fratis L. Duff, Assistant Commandant in a speech to nineteen new flight nurses graduating from the Army Air Forces School of Aviation Medicine at Randolph Field, Tex. the present graduates have been carefully selected from Army Air Force Stations within Continental United States.

13th Air Force: Rescued by a Catalina after he floated 68 hours on a life raft, in the China Sea, Lt. Edward Gingerich suffered only from a sunburned nose when he returned to his 13th Air Force squadron.

Gingerich was bombardier of a "Snooper" Liberator that bombed and strafed two Jap oil barges at minimum altitude off the Indo-China coast. The explosion of the barges damaged the Liberator so badly the crewmembers were unable to fly it back to their Netherlands East Indies Base.

AAF Middle Pacific: Construction under fire of the Saipan airstrip from which the B-29's daily took off to destroy Japanese war centers has won the 804th Aviation Engineer Battalion the Meritorious Service Unit plaque.

The 804th, fighting off counterattacks and blasting through coral mountains, completed the first Middle Pacific base for B-29's just 120 days after the first American landing on Saipan. A Jap airstrip was there before the invasion, but American shelling and bombs had pocked its runway with more than 500 craters.

Air Technical Service Command: Col. David R. Stinson assumed command on 17 August at Olmsted Field of Middletown Air Technical Service Command. Brig. Gen. John M. Clark, Commanding General since December 1943, has been transferred to Warner Robins Field, Ga. Col. Stinson originally entered the Army in Ordnance in 1917 but soon applied for transfer to the flying cadets.

Wright Field: Brig. Gen. Franklin O. Carroll, chief of the Air Technical Service Command's Engineering Division since 1939, left Wright Field 15 August for an undisclosed overseas destination, Maj. Gen. Hugh J. Kneer, Commanding General, ATSC, announced this week.

Under Gen. Carroll's direction have developed the Boeing B-29 Superfortress, the Northrup P-61 Black Widow, jet-propelled aircraft, and a host of other aerial weapons. He especially was identified with the AAF bombardment program, having been intimately connected with the development of each bomber since 1930.

Meanwhile at Wright field it was also announced Brig. Gen. George L. Usher, former commanding officer of Wright Field has been appointed Deputy Commanding General, Personnel (T-1).

Veteran of over two years overseas duty in the South Pacific, General Usher comes to Wright Field from Camp Davis, N. C., where he had been commanding general of Camp Davis Redistribution Station No. 5 since March.

The Tenth Air Force: The Tenth Air Force, veteran of the India-Burma campaign against the Japs will be added to the newly reorganized U. S. Army Air Forces, China Theater, under the command of Lt. Gen. George E. Stratemeyer.

The Tenth is commanded by Maj. Gen. Howard C. Davidson, who was executive officer at Hickham Field, Hawaii, when the Japs struck there in December 1941.

► NAVAL AERONAUTICS. Composite Squadron Ninety-Three: Six pilots of escort carrier-based Navy Composite Squadron Ninety-three doubled in brass at Okinawa during their recently completed Pacific combat tour, flying Wildcat fighters one day and Avenger torpedo bombers the next.

Leading pilot in this double role, first of its kind reported from the Pacific Fleet, was Lt. (jg) Hatherly Foster, 3d, USNR, who shot down four Japanese suicide planes, three of them by following the Kamikazes down through terrific flak from American ships.

Six April, the day on which Japan flew hundreds of suicide planes on one day missions to Okinawa in an effort to batter our giant invasion fleet—was a Wildcat day for Lieutenant Foster. He got his first plane. A Val, obsolescent dive bomber converted into a Kamikaze, started a final dive on a destroyer escort from 3,000 feet. Lieutenant Foster got the Val at 800 feet, and the latter finally exploded.

Composite Squadron Twenty-Five: When Okinawa was invaded American forces faced attack from Japan in the north, China on the West and Formosa and the Sakishima Gunto Group on the southwest. The enforced inactivity of the Japanese on the Sakishimas is explained in the combat history of the Navy's Composite Squadron 25, just returned to the United States after 70 days of combat operations around Okinawa and the Sakishimas. Composite 25 was one of the Navy squadrons, units of the support carrier fleet, which were assigned to secure the southern flank of Okinawa operations.

Under command of Lt. Comdr. Paul M. Paul, USN, Composite 25 battered the Okinawa assault front, then cruised southwest to flail the Sakishima group with 921 combat strikes.

While Lt. Comdr. Paul's Hellcats shot three Jap planes out of the air and destroyed or damaged 38 others on the ground, the bombing, rocketing and strafing Avengers under Lt. John T. Wright, USNR, torpedo squadron skipper, smothered six Sakishima airfields with bombs and bullets, to keep the fields inoperative. The "torps" destroyed or damaged 12 enemy aircraft and teamed with Fighting 25's Hellcats to burn nine more.

Active Jap gunners on Okinawa and in the Sakishimas traded blows vengefully with Composite 25's aerial raiders. Four Avengers and three hellcats were lost and many punctured by enemy antiaircraft fire.

► ARMY GROUND FORCES. Added to the Army Ground Forces headquarters staff of General Jacob L. Devers, Commanding General of AGF, are two generals, both overseas veterans of the two World Wars. They are Brig. Gen. Doyle O. Hickey of the Ground Requirements Section, and Brig. Gen. William H. Sands, Ground Plans Section.

Other officers newly assigned to this headquarters for permanent duty include Col. Sheffield Edwards, FA, Ground G-3 Section; Lt. Col. Ernest N. Cory, Jr., FA, Ground G-3 Section; Lt. Col. Ronald W. Evans, Inf., Ground Requirements Section; Lt. Col. Richard J. Hunt, Inf., Ground Requirements Section; Lt. Col. William B. Moore, Inf., Ground Plans Section; Maj. Charles D. Lederer, AC, Ground Special Information Section; Maj. William R. Washington, Inf., Ground G-3 Section; Maj. Harry G. Clay, AGD, Ground Adjutant General's Section; Maj. Albert H. Smith, Jr., Inf., Ground G-3 Section; Capt. David V. Cleary, Cav., Ground Requirements Section; Capt. Steven J. Manchester, Inf., Ground G-1 Section; 2nd Lt. Loren C. Lewis, Inf., Ground Special Information Section.

Antiaircraft Command—Fifteen officers and civilian technicians from the Army Ground Forces and the Army Service Forces attended a three-day development conference arranged by the Antiaircraft Command.

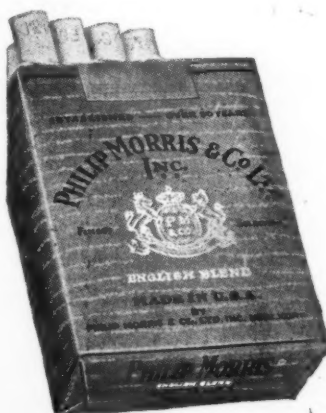
The party, headed by Brig. Gen. R. W. Crichlow, jr., Ground Requirements Division, AGF, included Col. H. S. Johnson, Ground G-3 Section, AGE; Col. F. E. Edgecomb, Ground Requirements Division, AGF; Lt. Col. R. S. Cranmer, Ordnance, ASF; Maj. T. E. Stern, Ordnance, ASF; Maj. R. S. Ransom, Ordnance, ASF; Maj. J. E.

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Offices in principal cities

Kelley, Signal Corps, ASF; Capt. J. H. Holstein, Ordnance, ASF; Lt. Col. Marks, Jr., Signal Corps, ASF; Lt. Col. Harry Webb Parmar, Signal Corps, ASF; Maj. F. A. Coles, Signal Corps, ASF; Mr. H. G. Yamins, Signal Corps, ASF; Maj. E. N. Welles, Headquarters, ASF and Capt. C. S. Ireson, Headquarters, ASF.

Following a conference and an address by Brig. Gen. Robert H. Van Volkenburgh, Commanding General, Antiaircraft Command, the visitors witnessed a "county fair" exhibition of AA guns and materiel at the Antiaircraft School and later viewed AA gun batteries in action against aerial targets at Hueco, New Mexico.

Col. Mark A. Devine, Jr., Cavalry officer formerly stationed at Fort Bliss, Tex., with the 1st Cavalry, addressed officers of the AA Command, Antiaircraft Artillery School and the AA Board in conjunction with the weekly orientation lecture held at the Post Theater. Col. Devine praised the effectiveness of Antiaircraft Artillery in the European Theater of Operations.

Antiaircraft Artillery School—Maj. Fabien Gely, 1st French Army, visited antiaircraft installations at Fort Bliss to study American training methods and antiaircraft materiel. Maj. Gely, who arrived in the United States in May, following a tour of duty in France and Germany with an antiaircraft battalion, attended the Command and General Staff School at Ft. Leavenworth, Kans. before coming to Fort Bliss.

Cavalry School—Lt. Col. James F. Hollingsworth, ex-football star, a battalion commander in the 2nd Armored Division, and reputedly the most decorated man of the Ninth Army, has taken over command of School Troops, with Maj. Eugene J. Field as his Executive Officer.

WOJG William Johnston has been relieved from the Staff and Faculty and assigned to Headquarters, First Army, Fort Jackson, S. C.

Capt. Howard S. Ryington has been relieved from the Staff and Faculty and assigned to the Officers Replacement Pool, Cavalry Replacement Training Center. He will report to the latter upon completion of the Infantry Course, Command and General Staff School, Ft. Leavenworth, Kans.

Capt. Phil E. Gafford, Field Artillery, has been relieved from School Troops and assigned to the Field Artillery Replacement Training Center, Fort Sill, Okla. He will report to his new assignment upon completion of the Infantry Course, Command and General Staff School.

Capt. Jack W. Downey has been newly assigned to the Department of Weapons. 2nd Lt. Mary E. Wolk, WAC, has been assigned to School Troops and appointed acting commanding officer of the Cavalry School WAC Detachment.

2nd Lt. Mary L. Ferguson, WAC, has been appointed Assistant Personnel Officer. 1st Lt. William M. Burton, Jr., School Troops, has been assigned temporary duty in connection with Army activities in Kansas City, Mo.

CWO Charles F. Tucker, Staff and Faculty, will attend the Student Officers' Course, Adjutant General's School, Fort Oglethorpe, Ga.

Lt. Col. Charles J. Hodge has been relieved from assignment with the Staff and Faculty and will be relieved from active duty at the Separation Center, Ft. Leavenworth, Kans. He will return to civilian life at his pre-war residence in Mapleton, N. J. He becomes the first Cavalry School officer to retire from active duty under RR 1-5.

The Meritorious Service Plaque was presented to the WAC Detachment by Maj. Gen. Isaac D. White, School Commandant. It was accepted by 2nd Lt. Virginia B. Hanson, Acting Commanding Officer of the Detachment.

1st Lt. Lawrence J. White has been relieved from assignment with Headquarters and Headquarters Detachment of School Troops and assigned to Reconnaissance Section No. 3.

Lt. Col. Daniel E. Still, Staff and Faculty has been placed on temporary duty at Ft. Robinson, Neb.

2nd Lt. Virginia B. Hanson, WAC, has been appointed Assistant Adjutant.

Col. Lester A. Sprinkle, Staff and Faculty, has been placed on temporary duty at Headquarters Army Ground Forces, Washington, D. C.

Lt. Col. Henry P. Heid, Staff and Faculty, has been placed on temporary duty at Ft. Knox, Ky., in connection with Army activities.

Capt. Sidney A. Miller has been newly assigned to the Department of Communications.

WOJG Carl M. Kasse, Staff and Faculty, has been assigned to the Department of Motors.

CWO Roy L. Carver has been relieved from assignment with the Staff and Faculty, and will return to his residence 704 Fairview avenue, Columbia, Missouri, after being relieved from active duty.

WOJG Coleman M. Mancil has been relieved from assignment with School Troops and assigned to the 12th Armored Group at Camp Gruber, Okla.

► **NAVY SHIPS.** **USS Sangamon**—Following a career of combat which stretches solidly from North Africa to Okinawa, the USS Sangamon, name ship of a class of escort carriers, has finally had to come home to repair damage inflicted by the enemy in the Pacific.

When she was damaged, which was immediately after she had been helping to destroy the Japanese air force in the Southern Ryukyus, she was hit by a two-engine Japanese bomber, which crashed on the Sangamon's broad flight deck off Kerama Retto, near Okinawa on 4 May.

Officially designated as an escort carrier, the Sangamon from the beginning has been a support carrier, and her history is typical of the histories of the anonymous ships which compose the support carrier fleet. When damaged she was under the command of Capt. A. I. Malstrom, USN.

Twelve Japanese planes started out on the suicide party which had the Sangamon as its target. Nine of the 12 planes fell victim to Marine F4U Corsairs as the enemy headed for Kerama Retto.

As the Sangamon and the USS Fullam, an escorting destroyer, took the last plane under fire with all guns, he levelled out slightly, nosed over again in a shallow dive, took hits, burst into flames about 600 yards from the carrier, dropped a bomb and crashed almost simultaneously into the center of the flight deck. The carrier burned for five hours after, and the crew finally whipped the fire.

USS Wyoming—The ex-battleship USS Wyoming, second oldest battleship keel in the service in the U. S. Navy, has used more antiaircraft ammunition than any other ship in World War II, but she has never fired a shot at the enemy nor left the safety of Chesapeake Bay for more than three years.

Since March 1942, more than 35,000 officers and men of the fleet have received antiaircraft training aboard the vessel. More than 1,700,000 rounds of ammunition have been expended through here seven different kinds of antiaircraft guns. All of this training has been accomplished without a single personnel casualty.

USS Auriga—After 21 months in the sea-lanes of the Pacific, the USS Auriga, cargo ship, returned to the West Coast on 14 May 1945. Since its commission in San Francisco on 1 April 1943, to its return the vessel made voyages totaling 75,000 miles, equal to three times around the world.

Taking part in the unglamorous task but vitally necessary one of supplying the armed forces of the Pacific, the Auriga braved the perils of Jap submarines, suicide planes, suicide boats and bombings. Many times smoke of battle was so thick enemy forces could not be seen, and the vessel frequently held more than 15 calls for General Quarters in one night.

Captain of the vessel, which arrived at the Alaska Packers Corporation at Alameda, Calif. is Comdr. John G. Hart, USNR.

USS Independence—The USS Independence in the course of the war has seen action from Saldon and Cape des Hirondelles on the French Indo China Coast to the Ryukus and the Islands of the Japanese homeland.

The vessel started out as the USS Amsterdam, but early in 1942 when the Navy announced the need for small fast carriers the uncompleted hull was changed over: the Amsterdam was forgotten, and the Independence emerged, the first of a series of 10,000 ton flat tops to be known as "CVL's."

Capt. E. E. Ewen, USN, was the Commanding officer when the Independence sent her fighters over Marcus Island on 1 September 1943. On 5 and 6 October 1943 the Independence was under command of Captain R. L. Johnson, USN. The ship's last Commanding officer, Capt. N. M. Kindell, USN, came aboard in February and under him the Independence completed its longest combat cruise, a 62 day operation.

USS Massachusetts—On 12 May 1945, the USS Massachusetts, a battleship of the South Dakota class, celebrated completion of her third year of operations against enemy forces in both the Atlantic and Pacific. The start of her fourth year of duty found the vessel on her way back to "bogy lane," the waters off Okinawa where she had been taking part in supporting landing operations and beating off persistent and sometimes suicidal attacks by Japanese planes.

In her thirty-six months of service, the Massachusetts, also called the "Mighty Massy" or "Big Mamie" had an outstanding war record. The Massachusetts was flagship of the task force, which moved in toward the coast of French Morocco, off Casablanca on 8 November 1942, her first action.

USS McKee—The crew of the valiant destroyer McKee acted as human ballast in the face of certain death to save their ship as a savage typhoon upended their small ship and covered the decks with tons of water. As the destroyer entered the eye of the tropical storm, she was lifted to the crest of a fifty foot wave and then crashed bow on into the sea, which blanketed the ship under water and sent a solid eight-foot bank down the main deck.

Commanding officer of the vessel is Comdr. Russell B. Allen, USN. Although the 2,100 ton ship crept along at slow speeds, keeping her nose into the storm so as not to be bowled over by the gigantic swells, she heeled over forty-five degrees as the towering waves swept past her.

USS Aaron Ward—The USS Aaron Ward, a fast minelayer which Fleet Admiral Chester W. Nimitz, USN, said couldn't be licked, is being repaired in the Brooklyn Navy Yard after a 12,000 mile return trip from Okinawa, where she successfully defended herself against concerted suicide attacks by 10 Japanese planes on 3 May 1945.

Six of the planes crashed into the Ward, originally a heavy destroyer, while she was on her first front-line assignment. There were 96 casualties. Forty-two men were killed in action and 54 were wounded.

Comdr. W. H. Sanders, Jr., USN was commanding officer of the Ward when she shot down four of the 10 planes which singled her out for destruction early in the morning while she was acting as a support and screening unit. All of the planes were hit by the ship's antiaircraft fire.

USS Indiana—Although never damaged by the enemy the battleship USS Indiana has marked up a wartime record which shows more than 180,000 miles travelled in pursuit of the Japanese from Guadalcanal to Japan.

The ship has participated in at least seven major bombardments. Her gunners have at least 15 Jap planes to their credit and assists in several others.

A Japanese torpedo plane, whose pilot had no apparent intention of crashing into the Indiana until his plane was hard hit and burning, banged into the starboard side of the ship during the Battle of the Philippine Sea, on 19 June 1944. There was no report of damage. A small dent in the ship's side was the only mark the plane left. One man was listed as a casualty—but not from the crash.

On the same day, however, the Indiana received credit for downing five Jap planes. Another plane which had been hit tried a suicide dive on the ship after missing with its bomb load. Antiaircraft fire tore a wing off during the run and the plane hit the water close aboard. Parts of the plane and oil were strewn about the ship.

The present Indiana had had six commanding officers in her more than three years of duty. They are, in succession of command:

Rear Admiral (then Capt.) A. S. Merrill, USN, Capt. T. H. Peyton, USN, Rear Admiral (then Capt.) W. M. Fechteler, USN, Capt. J. N. Steel, USN, Capt. T. J. Kellher, Jr., USN, and Capt. F. P. Old, USN, present Commanding Officer.

USS Croatan: On the hurricane-whipped Atlantic Ocean a destroyer escort recently maneuvered dangerously close to the escort aircraft carrier USS Croatan, to transfer a critically ill appendectomy patient and write another chapter in the U. S. Navy's long standing tradition of caring for its own.

The Navy ships involved were part of a force of five ships caught in the June hurricane that swept the fringes of the Eastern Seaboard. Central figure in the dramatic incident on the high seas was Robert Sutter, Motor Machinists Mate, Third Class, USN, crew member of the USS Oswald, one of the DE's escorting the carriers.

Sutter's attack of acute appendicitis came on 27 June when storm winds were still high. His commanding officer, Lt. W. R. Peabody, USNR, flashed news of the emergency to the group commander, Capt. Kenneth Craig, USN, also skipper of the Croatan. Captain Craig ordered the ill man brought aboard the larger ship where more ample medical facilities were available. Searchlights and battle lanterns came into play as the crew of the escort carrier quickly set up a boom for a breeches buoy. Four times a line was shot over between the ships, but it was not until the fifth that success was achieved.

Exactly 17 minutes after Sutter entered the operating room, Lt. Comdr. John Francis Kelley, (MC), USNR, said to the corpsmen: "Take him to bed, boys—he'll be all right now."

USS LCS (L) 21: The USS LCS (L) 21, which diverted a Japanese suicide attack from a nearby flotilla of U. S. ships, and later rescued more than 200 survivors from the stricken vessels, has been commended by the Secretary of Navy. The citation authorizes all personnel attached to the ship on 4 May 1945, to wear the Navy Unit Commendation Ribbon.

USS Shannon: In the early evening of 4 May, the USS Shannon's commanding

officer Comdr. Edward L. Foster, USN, notified all hands by ships' inter-communication speakers that they were proceeding to the aid of another vessel of their force.

As the Shannon steamed at best speed to the rescue the crew made ready to take the damaged Aaron Ward in tow, fight her fires, and transfer wounded. It had been reported by radio that the Aaron Ward was in a bad way. Though she fought gallantly against the Kamikaze, it was believed the damage sustained would cause her to founder. As the Shannon closed the distance the Captain learned that the Ward's crew was working desperately to keep her afloat.

USS Nestor: This Battle Damage Repair ship and its crew of self-styled "Old Men" came into their own in the last eight months of the battle against the Kamikaze planes.

The Nestor has been near the battle line ever since the Japs began to use their suicide weapons in earnest and in eight months has completed 1,700 jobs on 47 different types of warcraft.

When the Nestor came to Okinawa, soon after the landings, the repair officer, Lt. Walter C. Rowley, USNR, told his crew: "The ships off this beach have really taken a slugging. Let's do our best to fix them up. That 'best' proved to be an over-all cut of 20 per cent in the time needed to repair the damaged ships.

USS Tabberer: The USS Tabberer, which rescued 55 survivors following the founding of two United States destroyers in the Western Pacific typhoons last 18 December, has been awarded the Navy Unit Commendation for "extremely meritorious service in the rescue of survivors following the foundering of two United States Destroyers in the Western Pacific typhoon of 18 December 1944 . . . Brave and seaworthy in her ready service, the Tabberer, in this heroic achievement, has implemented the daring seamanship and courage of her officers and men."

USS LCT (6) 1029: The tank landing craft LCT (6) 1029 braved murderous enemy shell fire in a gallant effort to land vitally-needed ammunition on a beach at Iwo Jima, only to capsize within reach of the goal under blasting Japanese artillery and deadly small arms fire.

On D-Day at Iwo Jima the vessel had delivered her cargo intact to the beach but was damaged by enemy mortar fire.

The craft was repaired and quickly returned to action, but less than two weeks later on 2 March 1945, she was knocked out for the last time. One crew member was

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General James Harbord suggested the idea. He told the President of the Del Monte Properties Company that it would be a wonderful thing for officers in the service to be able to look forward to a place where they could go and live in a healthful, all-year-round climate, and enjoy the way of life that they appreciate most, at a reasonable cost.

He said that the Monterey Peninsula was known by a very great many Army Officers because of the Army Post there, and that it was loved by everyone who knew it, and he thought the Peninsula was the proper place for such a development. The General pointed out that all officers in the Army and Navy face definite retirement at a certain age and that the wise ones prepare for that period while they are still in active service.

The outgrowth of the General's suggestion was the Monterey Peninsula Country Club. The property faces the Pacific Ocean,



along the Seventeen Mile Drive, and runs back into the Del Monte Forest. The clubhouse, designed by Clarence Tantau, is beautiful and commodious. The golf course is perhaps the most popular of the famous courses on the Peninsula. There are excellent tennis courts, a beautiful swimming pool, and along the waterfront and the fairways are innumerable homes of members. The project was so successful that there are more civilian members than retired officers. There are approximately four hundred active members today.

There are many beautiful building sites available. The Club is a proprietary club. An applicant first has to be elected and then purchases his home site and membership at the same time. The average price of a home site and membership ranges from \$1,000 to \$1,500, and the dues are \$5 a month. Terms as desired, with 5% interest on deferred payments. There are a few attractive homes available.

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killed and five others were wounded including the Officer in Charge, Lt. (Jg) Richard Ward, USNR.

USS Hancock: Commanded by Capt. Robert F. Hickey, USN, and a veteran of the successful campaign to crush the Japanese air force in its home islands, the USS Hancock, an Essex class carrier, was struck by a bomb and an enemy plane on 7 April, 1945.

The vessel was hit as she was again carrying the war to the enemy. She was struck while south of Kyushu, one of the four main Japanese Islands, as the Fast Carriers were destroying the enemy force. The big carrier was hit at 12 minutes past noon. One of the Hancock's achievements was the sinking of nine enemy warships in a single day during the battle of Leyte Gulf, off Samar.

USS Hammann and USS Peary: The realization that 150 miles away men's lives were endangered caused Captain Elward D. Poole, USN, commander of a task group escorting a valuable convoy from Europe to the United States, to send the USS Hammann and the USS Peary, to answer a call of help.

The call was sent out by two merchant ships which had collided and were in imminent danger of sinking, had it not been for the assistance of the two Navy vessels.

USS Shea: The USS Shea, destroyer-sized minelayer, has strong claim to being one of the luckiest ships in the fleet despite the fact that after dodging fanatical Japanese suicide attacks a dozen times near Okinawa her luck ran out on the 13th enemy attempt.

That attack on the Shea occurred on 4 May 1945, when the ship was on picket duty about 75 miles from Okinawa. It developed so quickly that only three guns had a chance to fire at the target. The attack was made by a Japanese Baka bomb—plywood and fabric-winged rocket glider with a suicide pilot and a 2,400 pound warhead.

USS Salute: The USS Salute (AM 294) swept 143 Japanese mines from enemy harbor entrances during extensive pre-invasion operations in the Pacific before the 144th mine sent her to the bottom of Brunel Bay on 8 June 1945, by blasting a hole through the center of the 184 foot vessel.

Nine members of her crew were killed and two officers and eight enlisted men injured by the explosion, which lifted the vessel out of the water and tossed survivors six feet in the air above the main deck.

Following the sinking, Lt. John R. Hodges, USNR, Commanding Officer, declared: "We figured our luck was beginning to run thin about that time, because he had been through 14 months of Pacific duty without a single casualty."

ARMY SERVICE FORCES. The White House announced this week the assignment of Lt. Gen. Levin H. Campbell, jr., Chief of Ordnance, to the Office of Reconversion.

The selection of General Campbell for this great post-war task reflects great credit upon the Ordnance Department, which he heads, and the Army Service Forces under General Brehon Somervell, of which Ordnance is a part. The charges made in Congress and in the press reflecting on the quality of our tanks and big guns have, of course, been disproved by their actual performance in battle and the crushing defeat of our enemies, but this public recognition of the administration's faith in the Ordnance Department and the Army Service Forces should remove any doubts that may have remained as to the President's satisfaction with their operation and performance.

It was stated at the White House that the assignment was made with President Truman's approval and on recommendation of John D. Snyder, Director of Reconversion, who told the President that when General Campbell became Chief of Ordnance on 1 June 1942, he was confronted "with the greatest production job in history" and that by his foresight and ability had saved the country millions of dollars and countless lives. General Campbell, Mr. Snyder said, has spent most of his career in contact with industry and "understands its problems large and small."

General Campbell will retain his post as Chief of Ordnance but a Deputy Chief has been appointed to take over much of his work and free his time for the reconversion task. Named deputy was Maj. Gen. Henry B. Sayler, USA, who returned recently from the European Theater of Operations where he was Theater Chief of Ordnance on the staff of General of the Army Dwight D. Eisenhower. General Sayler and General Eisenhower were classmates at the U. S. Military Academy.

Ordnance Department—The transition from a two-front to a one-front war was accomplished with no detrimental effect upon the efficiency of the Ordnance Department's supply system or depot operations.

That conclusion was reached after a ten-day inspection tour of West Coast depots and Ordnance supply installations made by Lt. Gen. Levin H. Campbell, jr., Chief of Ordnance. General Campbell was accompanied by Brig. Gen. E. L. Ford, Chief of Maintenance Division, Field Service; Col. Fred I. Gilbert, in charge of Reclamation under the Chief of Maintenance; Col. H. R. White, special assistant to General Campbell; and Lt. Col. Thomas J. Moore, jr., aide to the Chief of Ordnance.

Lt. Col. Edwin L. Colbert assumed command of Los Angeles Ordnance Depot, Vernon, Calif., on 15 August, relieving Col. Samuel M. Strohecker, jr. Colonel Strohecker was placed in command of the Tooele Ordnance Depot, Tooele, Utah, as of 15 August 1945. Col. H. E. Minton, former Commanding Officer of Tooele Ordnance Depot, has been assigned to the Rock Island Ordnance Center, Ill.

Brig. Gen. John W. Coffey assumed command of the Letterkenny Ordnance Depot, Chambersburg, Pa., on 1 Aug. He returns to his new assignment after more than four years overseas duty.

In accordance with instructions from the War Department, Hercules Powder Company has begun closing down four of the government-owned plants which the company operates, it was announced this week by W. R. Ellis, general manager of the Explosives Department.

The four plants which are being closed down are: New River Ordnance Plant, Pulaski, Va.; Radford Ordnance Works, Radford, Va.; Volunteer Ordnance Works, Chattanooga, Tenn.; and Missouri Ordnance Works, Louisiana, Mo.

Maintenance men have started the job of putting the four plants on a "stand by" basis, which means they can be activated within 120 to 180 days, should the occasion arise.

Maj. Gen. Julian S. Hatcher who shortly after V-E day at the express direction of the Commanding General, Army Service Forces, Brehon B. Somervell, headed a special mission to the battlefronts of Europe, has now returned to Washington.

In an incredibly short time after the actual fighting had ceased, Gen. Hatcher said, practically every battle casualty of ordnance equipment had been removed from the roads and battle by the highly-trained Ordnance Field Recovery Units.

Quartermaster Corps: Brig. Gen. Hubert W. Beyette has been assigned Chief

of the Army's Grave Registration Service, as of 1 Aug., and as such, will serve as Director of the Memorial Division, of the Office of The Quartermaster General. General Beyette succeeds Col. R. P. Harbold who will return to an inactive status by 31 December 1945. During the remainder of his active service, Colonel Harbold will serve as assistant to General Beyette.

The Quartermaster Purchasing Office is speeding termination settlements on all textile, clothing and equipment contracts which have been cancelled or partly terminated as a result of the end of the war with Japan, it was announced recently by Col. Thomas W. Jones, Commanding Officer.

Col. Jones revealed that up to 17 Aug. more than 5,000 telegrams cancelling millions of dollars in contracts on 168 different items have been sent out to contractors. In revealing the list of 168 items affected by the cancellations, the Colonel pointed out that for the time being it is impossible to give an exact dollar figure for all the contracts terminated because of the provisions covering work in process. Complete reports will have to be obtained on the basis of goods unfinished, partly finished, in transit, and shipped.

How the Quartermaster Corps keeps the American soldier the best fed, best clothed and best equipped in the world will be shown to personnel of the U. S. Military Academy at a special exhibit at the Academy on 31 Aug., staged by the Demonstration Battalion of The Quartermaster School.

In announcing the West Point show, Col. L. L. Cobb, School Commandant, expressed gratification at "this assignment, which offers such a fine opportunity to bring home to the Army's future leaders the mission of the Quartermaster Corps."

Corps of Chaplains: Chaplain (Brig. Gen.) Luther D. Miller, Army Chief of Chaplains, held a joint service with Chaplain (Rear Adm.) William N. Thomas, Navy Chief of Chaplains, in the East Room of the White House, Sunday, 19 Aug., at 10 a.m. At 4 p.m., Chaplain Miller was the preacher at special services held at the Washington National Cathedral.

Chaplain (Brig. Gen.) George F. Rixey, Office of the Inspector General, was the preacher at the Riverside Presbyterian Church on Sunday, 19 Aug. Chaplain Rixey participated in the ceremony at the Statute of Francis Asbury at 16th and Mount Pleasant Streets on Monday, 20 Aug., when Washington Methodism celebrated the 200th anniversary of the death of the famous churchman.

Deputy Chief of Chaplains, Office of the Chief of Chaplains, Chaplain (Col.) William D. Cleary, participated on the Army Hour program on the National Broadcasting Company network on Sunday, 19 Aug.

Other chaplains of the Office of the Chief of Chaplains who participated in special Thanksgiving Services held in Washington and vicinity on Sunday, 19 Aug., are as follows:

Chaplain (Col.) Harry C. Fraser, Officer in Charge, Technical Information Division, at Emory Methodist Church, 6104 Georgia Avenue, N. W.

Chaplain (Lt. Col.) Harry Lee Virden, Personnel Division, at Mount Rainier Episcopal Church, Mount Rainier, Maryland.

Chaplain (Lt. Col.) Roy J. Honeywell, Planning and Training Division, at Bethesda Baptist Church, Bethesda, Md.

Chaplain (Lt. Col.) Alvie L. McKnight, Officer in Charge, Miscellaneous Division, at Memorial Baptist Church, 5307 North Capitol Street, 11 a.m. and 8 p.m., and at a special celebration at the Methodist Church at Ryan, Va., 3 p.m.

Chaplain (Maj.) Edmund W. Weber, Planning and Training Division, at Lutheran Church, Mount Rainier, Md.

Chaplain (Maj.) William M. Frost, Army Ground Forces Liaison Division, at Hyattsville Presbyterian Church, Hyattsville, Md.

Chaplain (Maj.) Eben C. Brink, Technical Information Division, at Northminster Presbyterian Church, Alaska Avenue and Kalnia Road, N. W.

Chaplain (Capt.) H. Pierce Simpson, Technical Information Division, Arlington Baptist Church, Arlington, Va.

Chaplain (Maj.) Henry Tavel, Personnel Division, Office of the Chief of Chaplains, conducted special Jewish services of thanksgiving, 18 Aug., at the Navy Yard with Lt. David Jacobson of the Navy.

Chaplain (Col.) Walter B. Zimmerman, Officer in Charge, Army Ground Forces Liaison Division, Office of the Chief of Chaplains, is attending a three-day military conference on Army Convalescent Hospitals at Percy Jones Hospital Center, Battle Creek, Michigan, beginning 20 Aug.

Signal Corps: Col. Laurence Watts, Commanding Officer of the Holabird Signal Depot, Baltimore, Md., recently announced the assignment of 2nd Lt. John Kovach to the Depot as a student in the Army Services Forces Depot Course.

At the same time Col. Watts announced the assignment of 1st Lt. Frank Newbold as Officer in Charge of the Motor Pool on the Depot.

Signalmen at Camp Crowder, Mo., have become operators and supervisors of two new radio nets which will serve as a hook-up for four posts in different parts of the country. The new nets are located at Fort Warren, Wyo., and Camp Carson, Colo.

Maj. Gen. William H. Harrison, Chief, Procurement and Distribution Service, Office of the Chief Signal Officer, was the principal speaker at recent graduation exercises of the Holabird (Md.) Signal Depot School. Praising the high standards set by the School, Gen. Harrison said "Every depot commander is eager to get officers who have completed the courses here."

Col. John H. LaBrum, Signal Corps, was presented with the Legion of Merit by Maj. Gen. H. C. Ingles, Chief Signal Officer, for outstanding services in North Africa and Italy at a ceremony held recently in the Pentagon.

Recent assignments in the Office of the Chief Signal Officer include Maj. Charles B. Whittenberg as Chief, Weather and Common Equipment Branch; Capt. Donald W. Schrepel as Chief, Technical Coordination Branch; Capt. Joel M. Hirsch to Army Communications Service; Capt. Russell P. Jones to Communications Liaison Branch; Capt. Victor W. Jorgenson to Supply Control Branch; Capt. John K. Nelson to Maintenance Branch and Capt. Miles C. Van Natta to Stock Control Branch.

Col. F. E. Eldredge has been named Commanding Officer of the Philadelphia Signal Depot. He succeeds Brig. Gen. A. A. Farmer who has been assigned to a station on the West Coast.

Colonel Eldredge has been Acting Commanding Officer of the Philadelphia Signal Depot since March.

The Legion of Merit has been awarded to Brig. Gen. Carroll O. Bickelhaupt for his services in directing and supervising the Signal Corps training program at Fort Monmouth, N. J., during 1943-44.

Lt. Col. Maurice W. Musgrave, recently returned from the European Theater, has been assigned as Personnel Director of the Eastern Signal Corps Unit Training Center at Fort Monmouth, N. J. Colonel Musgrave was graduated from the U. S. Military Academy in 1937 and served in Iceland and England, before participating in the Normandy invasion.

Development of Atomic Bomb

(Continued from Page 1579)

was recognized early as being of the greatest importance, and such separation has, in fact, been one of the two major lines of Project effort during the past five years.

Production and Purification of Materials

2.13. It has been stated above that the cross section for capture of neutrons varies greatly among different materials. In some it is very high compared to the maximum fission cross section of uranium. If, then, we are to hope to achieve a chain reaction, we must reduce effect (3)—non-fission capture by impurities—to the point where it is not serious. This means very careful purification of the uranium metal and very careful purification of the moderator. Calculations show that the maximum permissible concentrations of many impurity elements are a few parts per million—in either the uranium or the moderator. When it is recalled that up to 1940 the total amount of uranium metal produced in this country was not more than a few grams (and even this was of doubtful purity), that the total amount of metallic beryllium produced in this country was not more than a few pounds, and that the total amount of concentrated deuterium produced was not more than a few pounds, and that carbon had never been produced in quantity with anything like the purity required of a moderator, it is clear that the problem of producing and purifying materials was a major one.

Control of the Chain Reaction

2.14. The problems that have been discussed so far have to do merely with the realization of the chain reaction. If such a reaction is going to be of use, we must be able to control it. The problem of control is different depending on whether we are interested in steady production of power or in an explosion. In general, the steady production of atomic power requires a slow-neutron-induced fission chain reaction occurring in a mixture of uranium and moderator, while an atomic bomb requires a fast-neutron-induced fission chain reaction in U-235 or Pu-239, although both slow- and fast-neutron fission may contribute in each case. It seemed likely, even in 1940, that by using neutron absorbers a power chain reaction could be controlled. It was also considered likely, though not certain, that such a chain reaction would be self-limiting by virtue of the lower probability of fission-producing capture when a higher temperature was reached. Nevertheless, there was a possibility that a chain-reacting system might get out of control, and it therefore seemed necessary to perform the chain-reaction experiment in an uninhabited location.

Practical Application of the Chain Reaction

2.15. Up to this point we have been discussing how to produce and control a nuclear chain reaction but not how to make use of it. The technological gap between producing a controlled chain reaction and using it as a large-scale power source or an explosive is comparable to the gap between the discovery of fire and the manufacture of a steam locomotive.

2.16. Although production of power has never been the principal object of this project, enough attention has been given to the matter to reveal the major difficulty: the attainment of high-temperature operation. An effective heat engine must not only develop heat but must develop heat at a high temperature. To run a chain-reacting system at a high temperature and to convert the heat generated to useful work is very much more difficult than to run a chain-reacting system

at a low temperature.

2.17. Of course, the proof that a chain reaction is possible does not itself insure that nuclear energy can be effective in a bomb. To have an effective explosion it is necessary that the chain reaction build up extremely rapidly; otherwise only a small amount of the nuclear energy will be utilized before the bomb flies apart and the reaction stops. It is also necessary that no premature explosion occur. This entire "detonation" problem was and still remains one of the most difficult problems in designing a high-efficiency atomic bomb.

Possibility of Using Plutonium

2.18. So far, all our discussion has been primarily concerned with the use of uranium itself. We have already mentioned the suggestion that the element of atomic number 94 and mass 239, commonly referred to as plutonium, might be very effective. Actually, we now believe it to be of value comparable to pure U-235. We have mentioned the difficulty of separating U-235 from the more abundant isotope U-238. These two isotopes are, of course, chemically identical. But plutonium, although produced from U-238, is a different chemical element. Therefore, if a process could be worked out for converting some of the U-238 to plutonium, a chemical separation of the plutonium from uranium might prove more practicable than the isotopic separation of U-235 from U-238.

2.19. Suppose that we have set up a controllable chain reaction in a lattice of natural uranium and a moderator—say carbon, in the form of graphite. Then as the chain reaction proceeds, neutrons are emitted in the process of fission of the U-235 and many of these neutrons are absorbed by U-238. This produces U-239, each atom of which then emits a beta particle, becoming neptunium ($_{93}\text{Np}^{239}$). Neptunium, in turn, emits another beta particle, becoming plutonium ($_{94}\text{Pu}^{239}$), which emits an alpha particle, decaying again to U-235, but so slowly that in effect it is a stable element. If, after the reaction has been allowed to proceed for a considerable time, the mixture of metals is removed, it may be possible to extract the plutonium by chemical methods and purify it for use in a subsequent fission chain reaction of an explosive nature.

Combined Effects and Enriched Piles

2.20. Three ways of increasing the likelihood of a chain reaction have been mentioned: use of a moderator; attainment of high purity of materials; use of special material, either U-235 or Pu. The three procedures are not mutually exclusive, and many schemes have been proposed for using small amounts of separated U-235 or Pu-239 in a lattice composed primarily of ordinary uranium or uranium oxide and of a moderator or two different moderators. Such proposed arrangements are usually called "enriched piles."

Use of Thorium or Protoactinium or Other Material

2.21. All our previous discussion has centered on the direct or indirect use of uranium, but it was known that both thorium and protoactinium also underwent fission when bombarded by high-speed neutrons. The great advantage of uranium, at least for preliminary work, was its susceptibility to slow neutrons. There was not very much consideration given to the other two substances. Protoactinium can be eliminated because of its scarcity in nature. Thorium is relatively plentiful but has no apparent advantage over uranium.

2.22. It is not to be forgotten that theoretically many nuclear reactions might be used to release energy. At present we see no way of initiating or controlling reactions other than those involving fission, but some such

synthesis as has already been mentioned as a source of solar energy may eventually be produced in the laboratory.

Amounts of Materials Needed

2.23. Obviously it was impossible in the summer of 1940 to make more than guesses as to what amounts of materials would be needed to produce:

- (1) a chain reaction with use of a moderator;
 - (2) a chain-reaction bomb in pure, or at least enriched, U-235 or plutonium.
- A figure of one to one hundred kilograms of U-235 was commonly given at this time for the critical size of a bomb. This would, (Please turn to Page 1588)

Men's Apparel Field

(Continued from First Page)

against the demands of the job. Special consideration should be given the training and skills developed while in the service. Consider the case of the stock boy, who returns a captain in the Air Corps. It is safe to assume he will never be satisfied to go back to his old job. On the other hand, he will be capable of taking on greater responsibilities on the mere strength of the highly specialized knowledge he has gained in the service.

Advantage should be taken of special educational studies of the returning veteran's problem, as issued by the Committee for Economic Development, the Office of War Information, the United States Employment Service, the Industrial Relations Service of Princeton University, and many local organizations. Some locals form a "Veteran's Counseling Committee" or the like. Often supported and partly financed by the city's merchants, it contacts employers to find out what jobs are open, lists and classifies such jobs, and attempts to fill them from the hundreds of returning veterans who come to the organization in answer to letters which have been sent out to men who are in the service.

Every effort should be made as quickly as possible to make the veteran forget he is a veteran and emphasize his status as a factor in the business, with all of the responsibilities and rewards that go with it.

If a business has a place for the disabled veteran, by all means he should be given an opportunity to work. One example in this connection is worth citing, that of a veteran who lost an arm in service and was given a job as section manager in a large department store. Not only is he doing the job well, but also he has regained his lost confidence and employee and employer are both very happy with the association.

The opportunities in the men's apparel field for the returning veteran, it seems to me, are great. To fit these men into their proper category is not an easy task but one that can be met and solved with the right kind of an approach and the willingness on the part of all concerned to work out a proper solution. This, I believe, is present and I have every confidence that the apparel field will do its share in helping to meet this situation.

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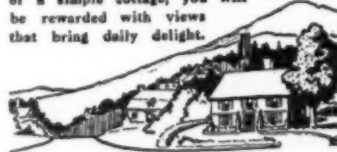
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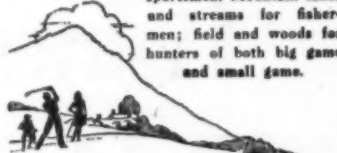
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SECRETARY of War Stimson left Saranac Lake, N. Y., 17 Aug., aboard the Army C-47 plane which brought him from Washington for a visit with Joseph E. Davies, former Ambassador to Russia, at the latter's Upper St. Regis Lake camp. The purpose of Mr. Stimson's visit was not disclosed, but it was indicated that he planned to return. Senator Millard E. Tydings, Democrat, of Maryland, also Mr. Davies's guest, left by train 16 Aug.

Rear Adm. and Mrs. John R. Beardall left the Naval Academy this week. They will go to Panama where Admiral Beardall will be stationed after a tour of duty as superintendent of the Naval Academy. Vice Admiral Aubrey Fitch has succeeded Rear Adm. Beardall as superintendent and, with Mrs. Fitch, is occupying the quarters of the superintendent at the academy.

Rear Adm. and Mrs. Laurance T. DuBose were among guests at a dinner given in Washington Sunday evening by the Secretary of the Navy and Mrs. James B. Forrestal.

Capt. David Scull, aide to Maj. Gen. A. E. Brown, commanding the 5th Infantry Division, who recently returned from Germany, is with Mrs. Scull and their young son and infant daughter at the home of Mrs. Scull's mother, Mrs. Clarence Aspinwall and Mr. Aspinwall.

The latest addition to the Scull family, Elizabeth Blair Scull was born 14 Aug. at Garfield Memorial Hospital. Mrs. Scull and David Scull, jr., have been with Mr. and Mrs. Aspinwall during the absence overseas of Capt. Scull.

Mrs. Scull, the former Miss Elizabeth Lee, is the daughter of Col. E. Brooke Lee of Silver Spring. Her husband is the son of Mr. and Mrs. E. Marshall Scull of Chestnut Hill.

Vacationing at Ocean City, Md., this week are Capt. Oscar J. Phillips, USN,

SERVICE SOCIAL NEWS

and Mrs. Phillips. They are staying at the Plimhimmon Hotel and plan to return to the Capital early in the week. Comdr. and Mrs. Charles Wheatley have recently returned to their home in Bethesda after spending about 10 days at Ocean City. While there they stayed at the Commander Hotel.

Brig. Gen. and Mrs. Bethal Simpson have just moved into their home at 265 So. Joyce St. in Aurora Hills, Arlington, Va., and will soon be at home to their many friends. With them is their daughter, Miss May Simpson, a popular member of the young Service set here. Miss Simpson has been a student at the Corcoran Art Gallery.

Brig. Gen. and Mrs. Joseph Battley, who have spent a number of years living in Arlington while Brig. Gen. Battley is on duty in Washington, also have a new address, and are living in Aurora Hills. Their home is located at 2625 So. Lynn St.

Capt. Alan W. Jones, jr., USA, and Mrs. Jones left the city last week for Asheville, N. C., where they will spend two weeks' leave, after which Capt. Jones will be reassigned to duty.

Capt. Jones, who is the son of Maj. Gen. A. W. Jones, USA, and Mrs. Jones, of Washington, has been on leave since June, when he returned to this country after being liberated from a German prison camp.

Capt. and Mrs. Jones have spent part of the time with Mrs. Jones' mother, Mrs. E. J. McGaw, wife of Brig. Gen. McGaw, USA, who is now overseas.

Maj. Gen. and Mrs. Jones' daughter, Miss Hallie Jessie Jones, has arrived in Tacoma, Wash., where she is the house guest of her uncle and aunt, Mr. and Mrs. W. L. McCormick.

Miss Jones graduated from Middlebury College in Middlebury, Vermont, on 25 June.

(Please turn to Next Page)

Weddings and Engagements

CAPTAIN and Mrs. Frederick R. Hook (MC), USN, of Boston, announce the engagement of their daughter, Patricia, to Lt. Leslie Richard Groves, USA, son of Maj. Gen. and Mrs. Leslie R. Groves, USA.

No date has been set for the wedding, but tentative plans are being made for the middle of October, pending Lieutenant Groves' assignment to duty.

Maj. Gen. and Mrs. Ulysses S. Grant, 3rd, of Washington, D. C., announce the marriage of their daughter Miss Julia Grant to 2nd Lt. John Sanderson Dietz, FC, AUS, son of Mr. and Mrs. Robert E. Dietz of New York City and Albuquerque, N. M.

The wedding took place on Saturday, 18 Aug., at the summer home of the bride's parents at Clinton, N. Y. The Rev. Robert J. Parker, Rector of St. John's Episcopal Church, Clinton, officiated.

Miss Grant's only attendant was Miss Olga Dietz, sister of the groom, and Mr. Robert E. Dietz, 3rd, of Albuquerque was his brother's best man.

Only the immediate family were present.

In the Central Presbyterian Church at Montclair, N. J., 18 Aug., Miss Mary Louise Smith, daughter of Mr. and Mrs. Charles Raymond Smith of Montclair, was married to Lt. (jg) Charles Brooks Almy, USN, son of Capt. Edmund Darrow Almy, USN-Ret., and Mrs. Almy of San Francisco.

Given in marriage by her father, the bride wore a gown of white satin, made with an off-the-shoulder neckline, long sleeves and a train. Her veil of tulle was attached to a Juliet cap of the same material embellished with seed pearls and she carried a bouquet of white orchids and stephanotis.

Mrs. Schuyler Wilbur of Coronado, Calif., sister of the bridegroom, was matron of honor. The other attendants were Mrs. William Larsen of New York, cousin of the bride; Mrs. Thomas O'Loughlin of Montclair, Miss Julia Ada Ford of Daytona Beach, Fla., and Miss Hanna Wilcox Bowman of Colebrook, Conn.

Kathryn Ann Wilbur, niece of the bridegroom, was flower girl.

Henry Gerrish Smith, 2d, brother of the bride, was best man. The ushers were Lts. William B. Baader and Louis

Charles Brooks, USNR; Lt. (jg) Jack R. Peat, USN, and Ens. Carl Davis, USNR. Among the out-of-town guests attending the wedding were Capt. and Mrs. Jeffrey C. Metzel, USN. Captain Metzel and Mr. Smith were classmates in the Naval Academy Class of 1919.

The bride was graduated from the Kimberley School, Montclair, and from Hollins College. Lieutenant Almy was graduated from the United States Naval Academy in 1943. He has served in the Pacific theatre of war and is now at the submarine base at New London, Conn.

Lt. Col. John F. McVey, USMC-Ret., and Mrs. McVey, of 3130 Browning St., San Diego, Cal., announce the engagement of their daughter, Mary Jane, to Lt. John H. McAuliffe, jr., (CEC), USN, son of Mr. and Mrs. John H. McAuliffe, of Oak Park, Ill.

Miss McVey is with the American Red Cross, as a hospital staff aid, on Tinian in the Marianas. She is a graduate of the Washington School for Secretaries.

Lieutenant McAuliffe is a graduate of Notre Dame University and took post graduate work at Harvard. He is at present on duty in the Marianas.

No date has been set for the wedding.

Col. William Stuart Eley, Inf., U. S. Army, and Mrs. Eley of Fort Leavenworth, Kans., announce the engagement of their daughter, Mary-Jo, to Lt. Col. Irving Jackson Harrell, jr., AUS, of Ft. Leavenworth, Kans., and Bainbridge, Ga. The wedding will take place in September.

Miss Eley attended Mary Washington College, Fredericksburg, Va., Randolph Macon Woman's College, Lynchburg, Va., and was graduated in the 1944 class of Stanford University, Calif.

Colonel Harrell is the son of Mr. and Mrs. I. J. Harrell of Bainbridge, Ga. He was graduated from the Georgia School of Technology, Atlanta, Ga., in 1941. He then served in Hawaii and the South Pacific for three years, returning to this country in 1944. He was graduated with the 20th class at the Command and General Staff School where he is now serving as an instructor.

Col. and Mrs. Sargent Prentiss Huff of Eglin Field, Fla., announce the engagement of their daughter, Eleanor Gerhard, to Lt. Jacob Halleck Feagles, jr., U. S. Army Air Forces.

Miss Huff is a graduate of Florida State College for Women and a member of Delta Delta Delta sorority.

Lt. Feagles is the son of Mr. and Mrs. Jacob Halleck Feagles of Pine Island, N. Y. He attended the University of Virginia and New York University, receiving his degree from the latter. He is a member of Alpha Tau Omega fraternity.

Miss Claire M. Moore, daughter of Mr. and Mrs. Philip J. Moore, 159 Chelsea Ave., became the bride of Capt. Thomas

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Posts and Stations

CAMP LEE, VA.

21 Aug. 1945
No major changes in scheduled classes in Basic Supply Officers, Advanced Supply Officers, and Non-commissioned Officers' classes at The Quartermaster School have occurred to date as a result of victory over Japan. School authorities stated this week.

Daily liaison with Washington reveals no drastic changes are at present contemplated, and committed schedules will be followed, it was announced.

Classes scheduled and dates of their opening exercises are: Basic Supply Officers' class 43 on 17 Sept.; class 44 on 15 Oct., and class 45 on 12 Nov.; Advanced Supply Officers' class 33 on 24 Sept., and class 34 on 29 Oct., and Non-commissioned Officers' class 34 on 26 Aug.

The next Nurses' Basic Training class will open 10 Sept., and will be of five weeks' duration as compared with the previous ten classes trained on a four-weeks' schedule. Another change coincident with world peace, but planned prior to Japanese unconditional surrender, extends the Officer Candidate classes from 17 weeks to six months. The first class to follow this schedule will be class 56, beginning 27 Aug.

New subjects added to the curriculum of the nurses' training center are all in the medical field and for refresher purposes. They include physiotherapy, occupational therapy, penicillin, blood substitutes, tropical diseases and isolation techniques.

Time devoted to ward duty has been raised from 7 to 28 hours, and increases of one or two hours have also been made in physical training, personnel adjustment and close-order drill.

Another major change is the allocation of 48 hours for processing activities such as issuance of uniforms and equipment, immunization and completion of personnel records. This processing was formerly done prior to the formal opening of the course.

The course, which has been in operation over six months, is designed to orient newly-commissioned Army nurses and to give a general background of information concerning the organization of the Army and functions of the Medical Corps and Army Nurse Corps, as well as to provide refresher medical training and instruction in basic military drill.

"The big lesson we all must have learned from recent history is that this country can't get by with the philosophy of 'let George do it,'" Major I. F. Willard, camp adjutant, told graduates of two advanced officer courses at The Quartermaster School at joint closing exercises here on 18 Aug.

NORFOLK, VA.

23 Aug. 1945
Miss Carolyn Aiken, whose engagement to Ensign Alvah Newman Cole, USNR, has been announced, was guest of honor Wednesday evening at a dinner party. Covers were laid for ten and the other guests included: Mrs. James Francis Aspinall, Mrs. Lewis W. Thomas, Mrs. John D. Kelly, Mrs. William Francis Gibbs, Mrs. Bernard F. York, Mrs. Ruth Spangler and the Misses Jean Latimer and Thelma Dickens.

Miss Aiken was honored again on Friday evening at a miscellaneous shower given by Miss Mary Etta McLean and Miss Elizabeth Ansell at the home of Miss McLean on Holland Avenue, Winona. The guests numbered twenty-five.

Miss Caroline Claypool was hostess Thursday evening at a dance given at the quarters of her parents, Chaplain and Mrs. James V. Claypool, in the Navy Operating Base, in honor of Misses Jacqueline and Anne Conner, who will leave soon with their parents, Capt. and Mrs. J. D. Conner, to make their home in Boston, Mass. The young guests numbered about thirty.

Miss Jean Craig, whose marriage to Lt. Robert Holman of LaGrange, Ga., took place Saturday afternoon, was entertained at noon on Saturday with a luncheon given by Miss Ann Cobb at the Norfolk Yacht and Country Club. Covers were laid for sixteen and in addition to the guest of honor the other guests were: Mr. and Mrs. J. D. Green and Miss JoAdams Green of Kershaw, S. C.; Mr. and Mrs. Richard Jones of Franklin, N. C.; Miss Ann Holman, Mrs. T. L. Arnett of LaGrange, Ga.; Mrs. Frederick Bennett, Jr., of Columbus, Ga.; Ens. Joseph Helm, USNR, of Dallas, Texas; Mr. and Mrs. R. J. Cobb,

Mrs. Dorothy Crain Payne, Mrs. Claudia Greenough, Miss Dorothy Austin and Miss Patricia Payne.

Miss Evelyn Worsham Clay, whose engagement to Lt. Corbin Barringer White, USNR, was recently announced, was guest of honor Friday evening at a bridge party and miscellaneous shower given by Mrs. Conrad Plyler and Miss Kathleen Daily at the home of Moss Daily on Larchmont Crescent. In addition to the bride-elect, the guests included Mrs. Allen L. Clay, Mrs. William McCormick Paxton, Mrs. Dallas T. Daily, Mrs. William Mack, Mrs. Edwin Kellam, Mrs. Marvin Graham, Mrs. Vincent Kilgus, Mrs. Adin Woodward, Mrs. Virgin Fooks Laws, Jr., Mrs. Douglas Lindsay, Mrs. J. Rives Worsham and Misses Lillian Wahab, Lois Nelms and Ethel Ford.

LONG BEACH, CALIF.

19 Aug. 1945
Week-end guests in the home of Capt. A. M. Van Eaton, USN, and Mrs. Van Eaton are Adm. and Mrs. C. T. Joy, who came north from their Coronado headquarters. Mrs. Joy left Washington, D. C., recently to join the Admiral on the West Coast upon his arrival from the Pacific Area. The hosts were carrying out interesting plans for the visiting couple's entertainment.

Civilian and service set friends are vying with each other in honoring Mrs. Carl Spantz, wife of General Spantz, who has arrived in Santa Monica from Alexandria, Va., to be with her mother, Mrs. Ralph Harrison. Among the friends are several who knew Mrs. Spantz in St. Louis, Mo.

Word comes from San Diego that a coterie of friends were delightfully entertained at dinner given in the Doctors' Mess, Balboa Park, by Rear Adm. Lucius W. Johnson, (MC), USN, and Mrs. Johnson.

The La Jolla home of Maj. Gen. Emil P. Moses, USMC-Ret., and Mrs. Moses was the setting for an evening party which began at 5:30 P. M. and brought together a group of congenial friends.

Retirement 1 Sept. from the Navy Dental Corps will enable Capt. and Mrs. Ernest C. Johnson to establish a home in San Diego or a nearby suburb.

Reunion pleasures are foremost at the Southland home of Col. Clayton C. Jerome, USMC, and Mrs. Jerome, as the officer is on leave from the Pacific and they are entertaining Mrs. Jerome's son, Maj. J. Hunter Reinburg, USMC, and Mrs. Reinburg. The younger service set matron has been residing in Los Angeles with her mother during the absence of Maj. Reinburg.

Mrs. David O'Neill, wife of Col. O'Neill, USMC, was hostess recently at a party in the North Island Commissioned Officers' Mess honoring Col. Otto E. Bartoe, USMC, on leave from the Pacific, and Mrs. Bartoe. It was in celebration of the couple's 26th wedding anniversary. House guests of Mrs. O'Neill are her mother and sister, Mmes. Charles Cutler Elly and Austin Mills, residents of Boston.

The welcome home mat is out for Capt. L. Clifford McAmis, Jr., (MC) USA, as he is expected to arrive today from New York to join his wife and small daughter in San Diego, after voyaging from Europe on the SS Queen Elizabeth. He was fourteen months with the 34th General Hospital group.

CHICAGO QM DEPOT

18 Aug. 1945
Lt. David K. Hulme of the Storage Division is now attending the Advanced School for Storage Officers at the Utah ASF Depot. He is the first native of Utah to attend the school. A graduate of the Utah State Agricultural College, class of '42, he majored in accountancy. He was a Lt. Col. in the ROTC and was called to active duty following graduation. His wife, Barbara, resides at present in Chicago.

1st Lt. D. Deane of Chemical Warfare while en route from his wife's home-town in Lincoln, Nebr., 9 Aug., stopped in to see Sgt. Walton Grundy of the Microbiological Laboratory, Medical Nutrition Laboratory, at this Depot. They were both students at the Pennsylvania State College. Lt. Deane was returning to his permanent station at Camp Detrick, Md., after a short leave.

Col. Frank M. Lee, formerly of the Kansas City Quartermaster Depot, assumed duties of Depot Veterinarian on 10 July, the as-

signment held by Col. Fred C. Waters, now retired.

Lt. Jordan R. Spina, who joined the Storage Division, Statistical Section, saw action in the South Pacific in New Guinea, Dutch East Indies and the Papuan Islands. In civilian life he is an accountant.

Ten officer students of the Nutritional Course for Officers at Fort Knox, Ky., returned to the Medical Nutrition Laboratory on 13 August.

HUNTSVILLE ARSENAL, ALA.

20 Aug. 1945
Col. Geoffrey Marshall, Commanding Huntsville Arsenal since May 1944, has been assigned to foreign duty with Col. Edward C. Wallington, former chemical officer for Gen. George S. Patton's Third Army, succeeding.

Col. Marshall took over command from Brig. Gen. R. C. Ditto, now director of material in the Office of the Chief of the Chemical Warfare Service.

Mrs. Marshall and family will make their home in Huntsville during Col. Marshall's absence.

His son, Lt. Geoffrey Marshall, Jr., returned recently from the European theatre where he saw combat duty with the 97th Chemical Battalion, U. S. Third Army. He is stationed at Camp Polk, La., at present.

Mrs. Agatha Beals Clark, wife of Capt. John Hancy Clark, Chief of the Huntsville Arsenal refrigeration and air-compressing department, died 1 July following a major operation. Mrs. Clark was from Indianapolis, Ind.; Capt. Clark is from Fort Worth, Tex.

Lt. Earl T. Tremblay, 32, Transportation Officer at Huntsville Arsenal, was fatally injured 14 Aug. in a jeep accident. The body was shipped to Albany, N. Y., the following day for burial.

Lt. Tremblay is survived by his wife and 18-month-old son, and his parents, Mr. and Mrs. M. D. Tremblay, 3681 Broadway, The Bronx, New York City.

There were no witnesses to the accident. Three Signal Corps soldiers on a service call came upon the jeep sitting upright at right angles to the road in a ditch with the body lying about six feet away.

The Locators

(Army—Address: The Locators, P. O. Box 537, Ft. Leavenworth, Kan.)

WITH the coming of peace, the Locators rejoice with all Army officers' wives throughout the land. But we also hasten to our daily chores, in the hope that we may continue for some months to establish contact between returning service personnel and the officers' families for whom they may have messages.

The Locators have requests for the addresses of the following army officers' wives:

Mrs. Jewel Alexander (Florence), Lt. Col. MC; Mrs. Elijah G. Arnold (Mildred), Col. Inf.; Mrs. W. H. Brunke (Helen), Col.; Mrs. John C. McCormack, daughter of Col. Charles Ferrin; Mrs. James C. Fry (Marjory), Lt. Col.; Mrs. Donald E. Hardy (Betty Kerr), Lt. AC; Mrs. Herbert D. Johnston (Betty), Capt. AC; Mrs. J. H. Lackey (Kitty), daughter of Col. W. S. Phillips; Mrs. John Olto (Ethel), Col. Finance; Mrs. Harry S. Robertson (Queen), Col. Inf.; Mrs. Frank Sharpless (Zola), Col.

Also the address of Lt. Col. Nester E. Cole, ASN 0-335792, Flying Officer, AC.

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Society

(Continued from Preceding Page)

Miss Charlotte Capers Keyser, and Capt. Chauncey Brewster Chapman, Jr., USMCR, were honored at a dinner given at the Shoreham Hotel, Washington, D. C., 17 Aug., by Miss Bettina Hinton, daughter of Col. and Mrs. John Hinton. The guests included close friends of the young couple and were Miss Neville Watson, Miss Anne Gallagher, Lt. Whiting Wicker, USNR, Lt. (jg) Edward Emerson, USNR, and John Talbot.

Miss Keyser's engagement to Capt. Chapman was announced a short time ago by her parents, Maj. Gen. Ralph Stover Keyser, USMC, and Mrs. Keyser. She attended Gunston Hall and was graduated from Western High School.

The wedding ceremony will be performed on Saturday, 1 September, and will take place in the bride's home with close friends and relatives of the family present.

Capt. Chapman has recently returned from two years' duty in the Pacific. He is the son of Mr. and Mrs. Chauncey Chapman, of Flushing, L. I. He attended Lenox School and was graduated from Williams College, where he was a member of Sigma Phi.

Weddings and Engagements

(Continued from Preceding Page)

M. Rienzi, son of Mr. and Mrs. Frederick W. Hodson of Jackson Heights, Long Island, N. Y., on 11 Aug.

Rev. Leo M. Cox, pastor, celebrated the Nuptial Mass and performed the marriage ceremony at eleven o'clock in the Star of the Sea Church. The bride was given in marriage by her father.

The bride's gown was a white satin bodice, torso length with long sleeves, and a net skirt. Her three tier finger tip veil was attached to a crown of pearls. She carried a bouquet of white roses and Bouvardia.

The matron of honor, Mrs. Edward J. McDaniel, 725 Westwood Ave., wore a pink marquisette gown.

Bridesmaids were Miss Diann Kirk, cousin of the bride, of East Orange; Mrs. Robert L. Bruce, Mrs. Charles D. Donohoe, and Miss Nina Moore, all sisters of the bride.

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Development of Atomic Bomb (Continued from Page 1585)

of course, have to be separated from at least 140 times as much natural uranium. For a slow-neutron chain reaction using a moderator and unseparated uranium it was almost certain that tons of metal and of moderator would be required.

Availability of Materials

2.24. Estimates of the composition of the earth's crust show uranium and thorium both present in considerable quantities (about 4 parts per million of uranium and 12 parts per million of thorium in the earth's crust). Deposits of uranium ore are known to exist in Colorado, in the Great Bear Lake region of northern Canada, in Joachimstal in Czechoslovakia, and in the Belgian Congo. Many other deposits of uranium ore are known, but their extent is in many cases unexplored. Uranium is always found with radium although in much larger quantity. Both are often found with vanadium ores. Small quantities of uranium oxide have been used for many years in the ceramics industry.

2.25. Thorium is also rather widely distributed, occurring as thorium oxide in fairly high concentration in monazite sands found to some extent in this country but particularly in Brazil and in British India.

2.26. Early rough estimates, which are probably optimistic, were that the nuclear energy available in known deposits of uranium was adequate to supply the total power needs of this country for 200 years (assuming utilization of U-238 as well as U-235).

2.27. As has already been mentioned, little or no uranium metal had been produced up to 1940 and information was so scant that even the melting point was not known. (For example, the *Handbook of Physics and Chemistry* for 1943-1944 says only that the melting point is below 1850°C whereas we now know it to be in the neighborhood of 1150°.) Evidently, as far as uranium was concerned, there was no insurmountable difficulty as regards obtaining raw materials or producing the metal, but there were very grave questions as to how long it would take and how much it would cost to produce the necessary quantities of pure metal.

2.28. Of the materials mentioned above as being suitable for moderators, deuterium had the most obvious advantages. It is present in ordinary hydrogen to the extent of about one part in 5000. By 1940 a number of different methods of separating it from hydrogen had been developed, and a few liters had been produced in this country for experimental purposes. The only large-scale production had been in a Norwegian plant, from which several hundred liters or heavy water (D₂O, deuterium oxide) had come. As in the case of uranium, the problem was one of cost and time.

2.29. Beryllium in the form of beryllium silicates is widely found but only in small quantities of ore. Its use as an alloying agent has become general in the last few years; for such use, however, it is not necessary to produce the beryllium in metallic form. In 1940 only 700 pounds of the metal were produced in this country.

2.30. As far as carbon was concerned, the situation was obviously quite different. There were many hundreds of tons of graphite produced every year in this country. This was one of the reasons why graphite looked very desirable as a moderator. The difficulties lay in obtaining sufficient quantities of graphite of the required purity, particularly in view of the expanding needs of war industry.

Time and Cost Estimates

2.31. Requirements of time and money depended not only on many unknown scientific and technological factors but also on policy decisions. Evidently years of time and millions of dollars might be required to achieve the ultimate objective. About all that was attempted at this time was making estimates as to how long it would take and how much it would cost to clarify the scientific and technological prospects. It looked as if it would not be a very great undertaking to carry along the development of the thermal-neutron chain reaction in a graphite-uranium lattice to the point of finding out whether the reaction would in fact go. Estimates made at the time were that approximately a year and \$100,000 would be required to get an answer. These estimates applied to a chain-reacting system of very low power without a cooling system or any means for using the energy released.

Health Hazards

2.32. It had been known for a long time that radioactive materials were dangerous. They give off very penetrating radiations—gamma rays—which are much like X-rays in their physiological effects. They also give off beta and alpha rays which, although less penetrating, can still be dangerous. The amounts of radium used in hospitals and in ordinary physical measurements usually comprise but a few milligrams. The amounts of radioactive material produced by the fission of uranium in a relatively small chain-reacting system may be equivalent to hundreds or thousands of grams of radium. A chain-reacting system also gives off intense neutron

radiation known to be comparable to gamma rays as regards health hazards. Quite apart from its radioactive properties, uranium is poisonous chemically. Thus, nearly all work in this field is hazardous—particularly work on chain reactions and the resulting radioactive products.

Method of Approach to the Problem

2.33. There were two ways of attacking the problem. One was to conduct elaborate series of accurate physical measurements on absorption cross sections of various materials for various neutron-induced processes and various neutron energies. Once such data were available, calculations as to what might be done in the way of a chain reaction could be made with fair accuracy. The other approach was the purely empirical one of mixing uranium or uranium compounds in various ways with various moderators and observing what happened. Similar extremes of method were possible in the case of the isotope-separation problem. Actually an intermediate or compromise approach was adopted in both cases.

Power vs. Bomb

2.34. The expected military advantages of uranium bombs were far more spectacular than those of a uranium power plant. It was conceivable that a few uranium bombs might be decisive in winning the war for the side first putting them into use. Such thoughts were very much in the minds of those working in this field, but the attainment of a slow-neutron chain reaction seemed a necessary preliminary step in the development of our knowledge and became the first objective of the group interested in the problem. This also seemed an important step in convincing military authorities and the more skeptical scientists that the whole notion was not a pipe dream. Partly for these reasons and partly because of the extreme secrecy imposed about this time, the idea of an atomic bomb does not appear much in the records between the summer of 1940 and the fall of 1941.

Military Usefulness

2.35. If all the atoms in a kilogram of U-235 undergo fission, the energy released is equivalent to the energy released in the explosion of about 20,000 short tons of TNT. If the critical size of a bomb turns out to be practical—say, in the range of one to one hundred kilograms—and all the other problems can be solved, there remain two questions. First, how large a percentage of the fissionable nuclei can be made to undergo fission before the reaction stops; i.e., what is the efficiency of the explosion? Second, what is the effect of so concentrated a release of energy? Even if only 1 percent of the theoretically available energy is released, the explosion will still be of a totally different order of magnitude from that produced by any previously known type of bomb. The value of such a bomb was thus a question for military experts to consider very carefully.

Summary

2.36. It had been established (1) that uranium fission did occur with release of great amounts of energy; and (2) that in the process extra neutrons were set free which might start a chain reaction. It was not contrary to any known principle that such a reaction should take place and that it should have very important military application as a bomb. However, the idea was revolutionary and therefore suspect; it was certain that many technical operations of great difficulty would have to be worked out before such a bomb could be produced. Probably the only materials satisfactory for a bomb were either U-235, which would have to be separated from the 140-times more abundant isotope U-238, or Pu-239, an isotope of the hitherto unknown element plutonium, which would have to be generated by a controlled chain-reacting process itself hitherto unknown. To achieve such a controlled chain reaction it was clear that uranium metal and heavy water or beryllium or carbon might have to be produced in great quantity with high purity. Once bomb material was produced a process would have to be developed for using it safely and effectively. In some of the processes, health hazards of a new kind would be encountered.

Policy Problem

2.37. By the summer of 1940 the National Defense Research Committee had been formed and was asking many of the scientists in the country to work on various urgent military problems. Scientific personnel was limited (although this was not fully realized at the time). It was, therefore, really difficult to decide at what rate work should be carried forward on an atomic bomb. The decision had to be reviewed at frequent intervals during the subsequent four years. An account of how these policy decisions were made is given in Chapters III and V.

CHAPTER III ADMINISTRATIVE HISTORY UP TO DECEMBER 1941

Interest in Military Possibilities

3.1. The announcement of the hypothesis of fission and its experimental confirmation took place in January 1939, as has already been recounted in Chapter I. There was immediate interest in the possible military use of the large amounts of energy released in fission. At that time American-born nuclear physicists were so unaccustomed to the idea of

using their science for military purposes that they hardly realized what needed to be done. Consequently the early efforts both at restricting publication and at getting government support were stimulated largely by a small group of foreign-born physicists centering on L. Szilard and including E. Wigner, E. Teller, V. F. Weisskopf, and E. Fermi.

Restriction of Publication

3.2. In the spring of 1939 the group mentioned above enlisted Niels Bohr's cooperation in an attempt to stop publication of further data by voluntary agreement. Leading American and British physicists agreed, but E. Joliot, France's foremost nuclear physicist, refused, apparently because of the publication of one letter in the *Physical Review* sent in before all Americans had been brought into the agreement. Consequently publication continued freely for about another year although a few papers were withheld voluntarily by their authors.

3.3. At the April 1940 meeting of the Division of Physical Sciences of the National Research Council, G. Breit proposed formation of a censorship committee to control publication in all American scientific journals. Although the reason for this suggestion was primarily the desire to control publication of papers on uranium fission, the "Reference Committee" as finally set up a little later that spring (in the National Research Council) was a general one, and was organized to control publication policy in all fields of possible military interest. The chairman of the committee was L. P. Eisenhart; other members were G. Breit, W. M. Clark, H. Fletcher, E. R. Fred, G. B. Pegram, H. C. Urey, L. H. Weed, and E. G. Wever. Various subcommittees were appointed, the first one of which had to do with uranium fission. G. Breit served as chairman of this subcommittee; its other members were J. W. Beams, L. J. Briggs, G. B. Pegram, H. C. Urey, and E. Wigner. In general, the procedure followed was to have the editors of various journals send copies of papers in this field, in cases where the advisability of publication was in doubt, either directly to Breit or indirectly to him through Eisenhart. Breit then usually circulated them to all members of the subcommittee for consideration as to whether or not they should be published, and informed the editors as to the outcome. This arrangement was very successful in preventing publication and was still nominally in effect in June 1945, in modified form. Actually the absorption of most physicists in this country into war work of one sort or another soon reduced the number of papers referred to the committee practically to the vanishing point. It is of interest to note that this whole arrangement was a purely voluntary one; the scientists of the country are to be congratulated on their complete cooperation. It is to be hoped that it will be possible after the war to publish these papers at least in part so that their authors may receive proper professional credit for their contributions.

Initial Approaches to the Government. The First Committee

3.4. On the positive side—government interest and support of research in nuclear physics—the history is a much more complicated one. The first contact with the government was made by Pegram of Columbia in March 1939. Pegram telephoned to the Navy Department and arranged for a conference between representatives of the Navy Department and Fermi. The only outcome of this conference was that the Navy expressed interest and asked to be kept informed. The next attempt to interest the government was stimulated by Szilard and Wigner. In July 1939 they conferred with A. Einstein, and a little later Einstein, Wigner, and Szilard discussed the problem with Alexander Sachs of New York. In the fall Sachs, supported by a letter from Einstein, explained to President Roosevelt the desirability of encouraging work in this field. The President appointed a committee, known as the "Advisory Committee on Uranium" and consisting of Briggs as chairman, Colonel K. F. Adamson of the Army Ordnance Department, and Commander G. C. Hoover of the Navy Bureau of Ordnance, and requested this committee to look into the problem. This was the only committee on uranium that had official status up to the time of organization of the National Defense Research Committee in June 1940. The committee met very informally and included various additional scientific representatives in its meetings.

3.5. The first meeting of the Uranium Committee was on October 21, 1939 and included, besides the committee members, F. L. Mohler, Alexander Sachs, L. Szilard, E. Wigner, E. Teller, and R. B. Roberts. The result of this meeting was a report dated November 1, 1939 and transmitted to President Roosevelt by Briggs, Adamson, and Hoover. This report made eight recommendations, which need not be enumerated in detail. It is interesting, however, that it specifically mentions both atomic power and an atomic bomb as possibilities. It specifically recommended procurement of 4 tons of graphite and 50 tons of uranium oxide for measurements of the absorption cross section of carbon. Others of the recommendations either were of a general nature or were never carried out. Apparently a memorandum prepared by Szilard was more or less the basis of the discussion

at this meeting.

3.6. The first transfer of funds (\$6,000) from the Army and Navy to purchase materials in accordance with the recommendation of November 1st is reported in a memorandum from Briggs to General E. M. Watson (President Roosevelt's aide) on February 20, 1940. The next meeting of the "Advisory Committee on Uranium" was on April 28, 1940 and was attended by Sachs, Wigner, Pegram, Fermi, Szilard, Briggs, Admiral H. G. Bowen, Colonel Adamson, and Commander Hoover. By the time of this meeting two important new factors had come into the picture. First, it had been discovered that the uranium fission caused by neutrons of thermal velocities occurred in the U-235 isotope only. Second, it had been reported that a large section of the Kaiser Wilhelm Institute in Berlin had been set aside for research on uranium. Although the general tenor of this meeting seems to have been that the work should be pushed more vigorously, no definite recommendations were made. It was pointed out that the critical measurements on carbon already under way at Columbia should soon give a result, and the implication was that definite recommendations should wait for such a result.

3.7. Within the next few weeks a number of people concerned, particularly Sachs, urged the importance of greater support and of better organization. Their hand was strengthened by the Columbia results (as reported, for example, in a letter from Sachs to General Watson on May 15, 1940) showing that the carbon absorption was appreciably lower than had been previously thought and that the probability of carbon being satisfactory as a moderator was therefore considerable. Sachs was also active in looking into the question of ore supply. On June 1, 1940, Sachs, Briggs, and Urey met with Admiral Bowen to discuss approaching officials of the Union Minière of the Belgian Congo. Such an approach was made shortly afterwards by Sachs.

3.8. The general status of the problem was discussed by a special advisory group called together by Briggs at the National Bureau of Standards on June 15, 1940. This meeting was attended by Briggs, Urey, M. A. Tve, Wigner, Breit, Fermi, Szilard, and Pegram. "After full discussion, the recommendation of the group to the Uranium Committee was that funds should be sought to support research on the uranium-carbon experiment along two lines:

- (A) further measurements of the nuclear constants involved in the proposed type of reaction;
- (B) experiments with amounts of uranium and carbon equal to about one-fifth to one quarter of the amount that could be estimated as the minimum in which a chain reaction would sustain itself.

"It was estimated that about \$40,000 would be necessary for further measurements of the fundamental constants and that approximately \$100,000 worth of metallic uranium and pure graphite would be needed for the intermediate experiment." (Quotations from memorandum of Pegram to Briggs, dated 14 August, 1940.)

The Committee Reconstituted Under NDRC

3.9. Before any decisions made at this meeting could be put into effect, the organization of the National Defense Research Committee was announced in June 1940, and President Roosevelt gave instructions that the Uranium Committee should be reconstituted as a subcommittee of the NDRC, reporting to Vannevar Bush (chairman, NDRC). The membership of this reconstituted Uranium Committee was as follows: Briggs, Chairman; Pegram, Urey, Beams, Tube, R. Gunn and Breit. On authorization from Briggs, Breit consulted Wigner and Teller frequently although they were not members of the committee. From that time until the summer of 1941 this committee continued in control with approximately the same membership. Its recommendations were transmitted by Briggs to the NDRC, and suitable contracts were made between the NDRC and various research institutions. The funds, however, were first supplied by the Army and Navy, not from regular NDRC appropriations.

Support of Research

3.10. The first contract let under this new set-up was to Columbia University for the two lines of work recommended at the 15 June meeting as described above. The project was approved by the NDRC and the first NDRC contract (NDRC-32) was signed 8 November, 1940, being effective from 1 November, 1940 to 1 November, 1941. The amount of this contract was \$40,000.

3.11. Only very small expenditures had been made before the contract went into effect. For example, about \$3,200 had been spent on graphite and cadmium, this having been taken from the \$6,000 allotted by the Army and Navy in February, 1940.

3.12. We shall not attempt to review in detail the other contracts that were arranged prior to December 1941. Their number and total amount grew gradually. Urey began to work on isotope separation by the centrifuge method under a Navy contract in the fall of 1940. Other contracts were granted to Columbia University, Princeton University, Stand-

(Please turn to Page 1594)



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ALLAN—Born at Walter Reed General Hospital, Washington, D. C., 14 Aug. 1945, to 1st Lt. and Mrs. R. H. Allan, CE, a daughter.

ALTMAN—Born at Walter Reed General Hospital, Washington, D. C., 15 Aug. 1945, to Lt. Col. and Mrs. Oscar Altman, AAF, a daughter.

BROOKS—Born at the Hospital for the Women of Maryland, Baltimore, Md., 2 Aug. 1945, to Maj. and Mrs. Chauncey Brooks, Jr., AUS, a daughter. Maj. Brooks is on duty in Germany.

BROOKS—Born at Walter Reed General Hospital, Washington, D. C., 16 Aug. 1945, to M. Sgt. and Mrs. Claude Brooks, Inf., a daughter.

BULL—Born at Walter Reed General Hospital, Washington, D. C., 7 Aug. 1945, to Lt. and Mrs. Richard Terry Bull, a son, Terry Bull, II, Mrs. Bull, the former Nancy Martin, is living with her mother, Mrs. Louis LeRoy Martin, wife of Col. Martin, while her husband and her father are in Europe. Her brother, Stuart, is a Cadet at US Military Academy, West Point, N. Y. The baby was named for his paternal grandfather, Col. Terry Paul Bull, DC, now on duty in Manila, P. I. Mrs. Bull, sr., and Miss Betty Bull are living at 3653 Divisadero St., San Francisco, Calif.

CHILDS—Born at Harkness Pavilion, Columbia-Presbyterian Medical Center, New York City, 16 Aug. 1945, to Lt. and Mrs. Philip M. Childs, Jr., USN, a son, Philip Wiley Childs. Lt. Childs is serving in the Pacific.

CLARK—Born at Walter Reed General Hospital, Washington, D. C., 19 Aug. 1945, to Capt. and Mrs. Alonzo Clark, MAC, a daughter.

COLBERT—Born at Walter Reed General Hospital, Washington, D. C., 16 Aug. 1945, to WO and Mrs. William J. Colbert, USA, (SC), a daughter.

CONOVER—Born at Fitzsimons General Hospital, Denver, Colorado, 9 August, 1945, to 1st Lt. and Mrs. Jesse N. Conover, a daughter.

COTRELL—Born at Brooke General Hospital, Fort Sam Houston, Texas, 1 August 1945, to WO and Mrs. Edward Jewel Cotrell, a son, Edward Spence Cotrell.

CROSKERY—Born at Station Hospital, Bolling Field, D. C., 16 Aug. 1945, to Capt. and Mrs. Dayl D. Croskery, AAF, a son, Robert Dayl.

DENNEHY—Born at US Naval Hospital, Pensacola, Fla., 10 Aug. 1945, to Lt. and Mrs. Roderick C. Dennehy, USN, a daughter, Joan Bruce.

DE VILLERS—Born at Walter Reed General Hospital, Washington, D. C., 15 Aug. 1945, to 1st Lt. and Mrs. Ernest R. De Villers, AAF, a son.

DOZIER—Born at Walter Reed General Hospital, Washington, D. C., 16 Aug. 1945, to Mrs. John L. McKee, widow of Maj. McKee, USA, a daughter.

DYNAN—Born at Fitzsimons General Hospital, Denver, Colorado, 11 August, 1945, to 2nd Lt. and Mrs. John L. Dynan, Jr., a son.

EPPELSON—Born at Brooke General Hospital, Fort Sam Houston, Texas, 6 August 1945, to Staff Sergeant and Mrs. Eliza Lee Epperson, a son, David Lee Epperson.

FINNEGAN—Born at Fitzsimons General Hospital, Denver, Colorado, 14 August, 1945, to 1st Lt. and Mrs. Joseph V. Finnegan, a daughter.

GILLESPIE—Born at US Naval Hospital, Brooklyn, N. Y., 16 Aug. 1945, to Lt. and Mrs. Stuart P. Gillespie, USNR, a son, Duncan Macpherson Gillespie.

GILLMORE—Born 9 Aug. 1945 to Lt. and Mrs. David Spear Gillmore, a daughter, Diana Shipley. Mrs. Gillmore is the former Miss Jeanne Fisher of Centerville, Md.

GREEN—Born at Walter Reed General Hospital, Washington, D. C., 18 Aug. 1945, to Capt. and Mrs. Curtis M. Green, SC, a daughter.

GUTHRIE—Born at Brooke General Hospital, Fort Sam Houston, Texas, 2 August 1945, to Maj. and Mrs. James O. Guthrie, a son, James Terry Guthrie.

HALL—Born at Regional Hospital, Patterson Field, Dayton, Ohio, 13 Aug. 1945, to Maj. and Mrs. Raymond L. Hall, AC, a son, Robert Lawrence.

HALLINGBY—Born at Columbia Hospital, Washington, D. C., 15 Aug. 1945, to Lt. and Mrs. Paul Hallingby, Jr., USNR, a daughter, Leigh Sutor.

HANNANS—Born at Harkness Pavilion, Columbia-Presbyterian Medical Center, New York City, 16 Aug. 1945, to Lt. Comdr. and Mrs. Kenneth Hannans, USNR, a daughter. Lt. Comdr. and Mrs. Hannans also have two sons.

HARWOOD—Born at Brooke General Hospital, Fort Sam Houston, Texas, 4 August 1945, to 2nd Lt. and Mrs. William Horace Harwood, a daughter, Barbara Jean Harwood.

Births • Marriages • Deaths

(No charge for service announcements. Please notify promptly.)

HENRY—Born at Fitzsimons General Hospital, Denver, Colorado, 10 August, 1945, to T. Sgt. and Mrs. John Henry, Jr., a son.

HODGE—Born at Walter Reed General Hospital, Washington, D. C., 18 Aug. 1945, to 1st Lt. and Mrs. Elmer Hodge, CE, a daughter.

HOLCOMBE—Born at Brooke General Hospital, Fort Sam Houston, Texas, 5 August 1945, to Corporal and Mrs. Egbert Wells Holcombe, a son, Kenneth Irvin Holcombe.

HUFER—Born at Brooke General Hospital, Fort Sam Houston, Texas, 5 August 1945, to Corporal and Mrs. George Edward Hufer, a daughter, Kathleen Lynn Hufer.

HURD—Born at Phillips House, Boston, Mass., 17 August 1945, to Capt. and Mrs. William B. Hurd, AUS, a son, William B. Hurd, Jr.

JAMISON—Born at Garfield Hospital, Washington, D. C., 15 August 1945, to Capt. and Mrs. Cecil Alexander Jamison, USMCR, a son, Cecil Alexander Jamison, Jr.

JONKER—Born at Fitzsimons General Hospital, Denver, Colorado, 9 August, 1945, to 2nd Lt. and Mrs. John B. Jonker, a son.

JORGENSEN—Born at Brooke General Hospital, Fort Sam Houston, Texas, 6 August 1945, to Staff Sergeant and Mrs. Peter Orlando Jorgensen, a daughter, Linda Gail Jorgensen.

KENNEDY—Born at Ackerson Maternity House, Passaic, (N. J.) General Hospital, 9 Aug. 1945, to Lt. and Mrs. Clifford T. Kennedy, AAF, a son, Dennis Reed. Lt. Kennedy is on duty in the Philippine Islands.

LANNON—Born at Booth Memorial Hospital, New York, N. Y., 17 Aug. 1945, to Lt. Comdr. and Mrs. John David Lannon, USNR, their second son, James Daland.

LAWSON—Born at Fitzsimons General Hospital, Denver, Colorado, 11 August, 1945, to 1st Lt. and Mrs. Frank E. Lawson, a daughter.

LAWSON—Born at Walter Reed General Hospital, Washington, D. C., 19 Aug. 1945, to 1st Lt. and Mrs. Edward C. Lawson, CE, a daughter.

LEAR—Born at Brooke General Hospital, Fort Sam Houston, Texas, 5 August 1945, to Mr. WO (Jg) and Mrs. Harry Edwin Lear, sr., a son, Harry Edwin Lear, Jr.

LEAR—Born at Fitzsimons General Hospital, Denver, Colorado, 8 August, 1.45, to Capt. and Mrs. Claude C. Lear, a son.

LEARY—Born at Fitzsimons General Hospital, Denver, Colorado, 10 August, 1945, to 1st Lt. and Mrs. Howard R. Leary, a son.

LEWIS—Born at Fitzsimons General Hospital, Denver, Colorado, 8 August, 1945, to 1st Sgt. and Mrs. Homer H. Lewis, a daughter.

LILLY—Born at Brooke General Hospital, Fort Sam Houston, Texas, 6 August 1945, to 2nd Lt. and Mrs. Clarence Warren Lilly, a daughter, Deldre Ann Lilly.

LONG—Born at Walter Reed General Hospital, Washington, D. C., 18 Aug. 1945, to Maj. and Mrs. Adelbert C. Long, AGD, a son.

MANNING—Born at Walter Reed General Hospital, Washington, D. C., 15 Aug. 1945, to T. Sgt. and Mrs. Joseph Manning, a son.

MARTIN—Born at Walter Reed General Hospital, Washington, D. C., 18 Aug. 1945, to Capt. and Mrs. Howard W. Martin, SC, a daughter.

MEGICA—Born at Frankford Hospital, Philadelphia, Pa., 9 August 1945, to Lt. Col. and Mrs. Martin G. Megica, USA, (USMA '39), a son, Richard Alan Megica.

MORRIS—Born at Fitzsimons General Hospital, Denver, Colorado, 8 August, 1945, to 2nd Lt. and Mrs. Charles H. Morris, a son.

MORTON—Born at Fitzsimons General Hospital, Denver, Colorado, 13 August, 1945, to 1st Lt. and Mrs. Noble L. Morton, a son.

MUMME—Born at Brooke General Hospital, Fort Sam Houston, Texas, 7 August 1945, to 1st Lt. and Mrs. Marvin Elmo Mumme, sr., a son, Marvin Elmo Mumme, jr.

NEEL—Born at Georgetown University Hospital, Washington, D. C., 21 Aug. 1945, to Lt. Comdr. and Mrs. S. E. Neel, USNR, a daughter, Amy Bowen Neel.

NORVELL—Born at Doctors Hospital, Washington, D. C., 3 Aug. 1945, to Lt. Col. and Mrs. James R. Norvell, USA, a son, David Carter, grandson of Col. and Mrs. William W. West, USA-Ret., and of Maj. and Mrs. B. P. Norvell, USA-Ret., and is the great grandson of Mrs. David J. Rumbough and the late Col. Rumbough.

OBENSCHAIN—Born at King's Daughters Hospital, Staunton, Va., 10 Aug. 1945, to Lt. and Mrs. Samuel L. Obenschain, AAF-Ret., a son, Samuel Luther Obenschain, Jr., grandson of Brig. Gen. and Mrs. A. Franklin Kibler of Durham, N. C., and of Dr. and Mrs. Clarence Philip Obenschain of "Selma", Staunton, Va.

O'NEAL—Born at Fitzsimons General Hospital, Denver, Colorado, 10 August, 1945, to 1st Lt. and Mrs. Edwin J. O'Neal, a son.

PARKINSON—Born at Brooke General Hospital, Fort Sam Houston, Texas, 6 August 1945, to 1st Lt. and Mrs. Douglas Ralph Parkinson, twin sons, Ward Douglas Parkinson and Joseph Leon Parkinson.

PERRY—Born at Fitzsimons General Hospital, Denver, Colorado, 11 August, 1945, to Capt. and Mrs. Gabriel J. Perry, a son.

PETERSON—Born at Coral Gables, Fla., 2 Aug. 1945, to Col. and Mrs. Clair A. Peterson, AAF, twin sons, Michael Young and David Huber. Col. Peterson, who is the personal pilot of General Arnold, Chief of AAF, has piloted the Air Forces Chief throughout the world over a period of years.

POLLOK—Born at Norfolk (Va.) General Hospital, 14 Aug. 1945, to Lt. and Mrs. Berkeley Anderson Pollok, AUS, a son, William Reid.

REED—Born at the King's Daughters Hospital, Portsmouth, Va., 9 Aug. 1945, to Lt. and Mrs. Robert Murdaugh Reed, USNR, a daughter, Julia Dorsey Reed.

RENNER—Born at Brooke General Hospital, Fort Sam Houston, Texas, 2 August 1945, to Capt. and Mrs. Robert Nelson Renner, Sr., a son, Robert Nelson Renner, Jr.

RISER—Born at Brooke General Hospital, Fort Sam Houston, Texas, 6 August 1945, to 1st Lt. and Mrs. Eugene Leroy Riser, a son, Eugene Leroy Riser, II.

SALEM—Born at Walter Reed General Hospital, Washington, D. C., 18 Aug. 1945, to 1st Lt. and Mrs. Joseph R. Salem, SC, a son.

SAMMON—Born at Greenwich (Conn.) Hospital, 15 Aug. 1945, to Lt. and Mrs. Robert J. Sammon, USNR, a son, John Keeler.

SLOCUM—Born at Harkness Pavilion, Columbia-Presbyterian Medical Center, New York City, 21 Aug. 1945, to Capt. and Mrs. William Slocum, a son.

SMOLEN—Born at Brooke General Hospital, Fort Sam Houston, Texas, 5 August 1945, to Tech Sergeant and Mrs. Frank John Smolen, a son, Paul Neal Smolen.

SPERRY—Born at St. Francis Sanitarium, Monroe, La., 4 Aug. 1945, to Lt. and Mrs. Burt Weldon Sperry, USNR, a daughter, Susan Broadway, granddaughter of Mrs. Gladys B. Sperry of Monroe and Maj. and Mrs. Gerald A. Johnson, USMC-Ret., of San Diego, Calif.

STOBELAAR—Born at Brooke General Hospital, Fort Sam Houston, Texas, 3 August 1945, to 1st Lt. and Mrs. David Winfield Stobelaar, sr., a son, David Winfield Stobelaar, jr.

STONE—Born at Walter Reed General Hospital, Washington, D. C., 18 Aug. 1945, to 2nd Lt. and Mrs. William L. Stone, Jr., CE, a daughter.

STRANDEMO—Born at Brooke General Hospital, Fort Sam Houston, Texas, 6 August 1945, to 1st Lt. and Mrs. Lester Edroy Strandemo, a son, Neut Lester Strandemo.

STREIGHTOFF—Born at Walter Reed General Hospital, Washington, D. C., 20 Aug. 1945, to 1st Lt. and Mrs. Frank Streightoff, SC, a daughter.

TAMMANY—Born at Fitzsimons General Hospital, Denver, Colorado, 14 August, 1945, to Lt. (Jg) and Mrs. Elwood G. Tammany, a daughter.

THORNE—Born at Harkness Pavilion, Columbia-Presbyterian Medical Center, New York City, 13 Aug. 1945, to Lt. and Mrs. Edwin Thorne, USNR, of Bay Shore, Long Island, their third son, Brinkley Stimson Thorne.

TOWNLEY—Born at Walter Reed General Hospital, Washington, D. C., 17 Aug. 1945, to 1st Lt. and Mrs. John W. Townley, AGD, a son.

ULLMER—Born at Fitzsimons General Hospital, Denver, Colorado, 3 August, 1945, to 1st Lt. and Mrs. Joseph H. Ullmer, a daughter.

VORBERGER—Born at Walter Reed General Hospital, Washington, D. C., 20 Aug. 1945, to 2nd Lt. and Mrs. John Vorberger, CE, a son.

WADSWORTH—Born at Fitzsimons General Hospital, Denver, Colorado, 10 August, 1945, to 1st Lt. and Mrs. Lawrence W. Wadsworth, a son.

WALSH—Born at Georgetown Hospital, Washington, D. C., 8 Aug. 1945, to Lt. and Mrs. William B. Walsh (MC), USNR, a son. Lt. Walsh is on duty in the Pacific.

WATSON—Born at Walter Reed General Hospital, Washington, D. C., 16 Aug. 1945, to T. Sgt. and Mrs. Luther D. Watson, MD, a daughter.

WEBER—Born at Fitzsimons General Hospital, Denver, Colorado, 10 August, 1945, to 1st Lt. and Mrs. Harry A. Weber, a son.

WHARTON—Born at Walter Reed General Hospital, Washington, D. C., 16 Aug. 1945, to 2nd Lt. and Mrs. Thomas P. Wharton, CE, a son.

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WHITE—Born at the Hospital for the Women of Maryland, Baltimore, Md., 14 Aug. 1945, to Lt. and Mrs. Harry F. White, Jr., AAF, a daughter.

WHITE—Born at Nassau Hospital, Minocla, Long Island, N. Y., 14 Aug. 1945, to Lt. (Jg) and Mrs. Norman Douglas White, USNR, a daughter, Marilyn White. Lt. White is on duty at Okinawa.

WIHR—Born at Fitzsimons General Hospital, Denver, Colorado, 12 August, 1945, to Capt. and Mrs. Norman L. Wihr, a daughter.

WILLIS—Born at Walter Reed General Hospital, Washington, D. C., 14 Aug. 1945, to FO and Mrs. Gordon P. Willis, AAF, a son.

WIMBERLY—Born at Walter Reed General Hospital, Washington, D. C., 19 Aug. 1945, to 1st Lt. and Mrs. Donald C. Wimberly, Ord., a son.

WOELFER—Born at Ingalls Memorial Hospital, Harvey, Ill., 21 July 1945, to Capt. and Mrs. Carlyle P. Woelfer, Inf., USA, a son, Carl William. Capt. Woelfer is on duty with the 42nd Inf. (Rainbow) Div., in Austria.

WRIGHT—Born at University Hospital, Charlottesville, Va., 11 July 1945, to Capt. and Mrs. William W. Wright, USMCR, a son, Carter Wright. Mrs. Wright, the former Ann Carter, is living with her mother at the old Carter home, North Garden, Va., while Capt. Carter is on duty in the Pacific area.

Married

ALMY-SMITH—Married in Central Presbyterian Church, Montclair, N. J., 18 Aug. 1945, Miss Mary Louise Smith of Montclair to Lt. (Jg) Charles Brooks Almy, USN, son of Capt. and Mrs. Edward Darrow Almy, USN-Ret., of San Francisco, Calif.

ANDERSON-TAYLOR—Married in the Presbyterian Church, White Plains, N. Y., 15 Aug. 1945, Miss Jean Laurette Taylor to Maj. Morris Reynold Anderson, AAF.

BAKER-TRAVERS—Married in the Church of the Good Shepherd, Ruxton, Md., 15 Aug. 1945, Miss Alice Suzanne Travers to Lt. Edwin Sherman Baker, USMC.

BALLARD-COUNCILMAN—Married in ORD Chapel, Greensboro, N. C., 17 July 1945, Pvt. Grace I. Councilman, WAC, to Lt. James D. Ballard, both of Asheboro, N. C.

BATES-KAVANAGH—Married in Ottawa, Canada, 31 July 1945, Miss Mary Ellen Kavanagh of Ottawa, to Lt. Francis X. Bates, USN, son of Comdr. and Mrs. S. L. Bates, (SC), USN, of Norfolk, Va.

BETZ-GURNEY—Married in the garden of the bride's parents home in Garden City, Long Island, N. Y., 18 Aug. 1945, Miss Ethel Gurney to Lt. O. John Betz, Jr., USMCR, on leave from the Pacific area.

BOCKOVEN-SPINNER—Married in Calvary Presbyterian Church, Riverside, Calif., 12 Aug. 1945, Miss Helen Spinner, daughter of Mr. and Mrs. Carl Spinner to Lt. Frederic T. Bockoven, AUS, son of Col. and Mrs. Frederic H. Bockoven, USA.

CHAMBERLAIN-MITCHELL—Married in Grace Episcopal Church, Vineyard Haven, Mass., 15 Aug. 1945, Miss Norma Mitchell to Ens. Rodman Wright Chamberlain, Jr., USNR.

CHAMBERLIN-PEET—Married in St. Luke's Church, Montclair, N. J., 18 Aug. 1945, Miss Elizabeth Marie Peet to Capt. Guy Winthrop Chamberlin, AUS.

COLVIN-HARRISON—Married at the home of the bride's parents, "Harrison's Landing", Lutz, Fla., 8 Aug. 1945, Sp.2/c Marianna Harrison, USNR, daughter of Capt. and Mrs. John E. Harrison, USA-Ret., to Lt. (Jg) John William Colvin, USNR.

DELAND-BEST—Married in Christ Church, Methodist, New York City, 16 Aug. 1945, Miss Jean Black Best of New London, N. H., to Capt. Durgin J. DeLand, Inf., AUS.

DIETZ-GRANT—Married at the summer home of the bride's parents at Clinton, N. Y., 18 Aug. 1945, Miss Julia Grant, daughter of Maj. Gen. and Mrs. Ulysses S. Grant, USA, of Washington, D. C., granddaughter of the late Maj. Gen. Frederick Dent Grant, USA, and great granddaughter of the late President Ulysses S. Grant, to 2nd Lt. John Sanderzon Dietz, FC, AUS, son of Mr. and Mrs. Robert E. Dietz of New York City and Albuquerque, N. M.

FERGUSON-PHELPS—Married in the Brick Presbyterian Church, New York City, 19 Aug. 1945, Miss Vera Leona Phelps of Brooklyn Heights, Brooklyn, N. Y., to Lt. (Jg) Cedric Keith Ferguson, USNR.

FISCHMAN-SVERDLIK—Married in New York, N. Y., 19 Aug. 1945, Miss Gloria Rita Sverdluk to Lt. DeWitt Fischman, AUS.

FOX-PRICE—Married in Jesu Roman Catholic Church, Detroit, Mich., 18 Aug. 1945, Miss Mary Lou Price to Capt. Howard A. Fox, Jr., AAF, on leave from duty with the 13th Air Force in Italy.

GOLDSMITH-KRAUS—Married in New York City, 17 Aug. 1945, Miss Beryl Kraus to Maj. Leo Goldsmith, Jr., AUS.

(Please turn to Next Page)

Births, Marriages, Deaths
(Continued from Preceding Page)

GOODRIDGE-BEARMAN — Married in St. Stephen's Church, Cohasset, Mass., 18 Aug. 1945, Miss Elizabeth G. Bearman to Lt. (jg) John N. Goodridge, USNR.

GORE-KEHL — Married in St. Joseph's Church, Garden City, Long Island, N. Y., 12 Aug. 1945, Miss Gwendolyn Kehl to Lt. Joseph E. Gore, jr., AAF.

GRIMES-MOORE — Married in the First Methodist Church, Blytheville, Ark., 6 Aug. 1945, Miss Mary Helen Moore of Blytheville to Capt. Robert Leno Grimes, of Portsmouth, Va.

GROTE-DEAN — Married in the Church of the Transfiguration, New York, N. Y., 16 Aug. 1945, Miss Eunice Earle Dean, daughter of Col. and Mrs. Elmer Anderson Dean, USA-Ret., of San Antonio, Tex., to Mr. George Christian Grote. The bride is a niece of Vice Adm. John S. McCain, USN.

JEWETT-THOM — Married in Grace Episcopal Church, Silver Spring, Md., 18 Aug. 1945, Miss Jean Thom to Capt. John Figgis Jewett, MC, AUS.

KAMMERLING-BUSHELL — Married in New York, N. Y., 16 Aug. 1945, Miss Helen Bushell to Lt. Alfred Kammerling, AUS.

KITLAN-ANDERSON — Married in the First Congregational Church, Passaic, N. J., 18 Aug. 1945, Miss Dorothea Anderson to Lt. Richard K. Kitlan, AAF.

LIBOTTE-RAY — Married recently in the First Christian Church, Sweetwater, Texas. Miss Mae Catherine Ray to Lt. Edward J. Libotte, AAF.

LINDLEY-WOODWARD — Married in Holy Trinity Episcopal Church, Greensboro, N. C., 11 Aug. 1945, Miss Elizabeth W. Woodward to Lt. Paul Cameron Lindley, USNR.

MCDONOUGH-HOLZWARTH — Married in Immaculate Conception Chapel of Seton Hall College, South Orange, N. J., 16 Aug. 1945, Miss Peggy Holzwarth to 2nd Lt. John Clinton McDonough, USMCR.

McKERNAN-FRAZIER — Married in St. Barnabas Church, the Bronx, New York, N. Y., 17 Aug. 1945, Miss Madeline E. Frazier to Lt. (jg) J. Peter McKernan, USNR.

MCRBERTS-KESSLER — Married in New York City, 18 Aug. 1945, Miss Augusta Kessler, daughter of Mr. and Mrs. J. B. August Kessler of Rutland, England, to Maj. Neal Lane McRoberts, AUS, of New Orleans, La.

MORROW-LOGAN — Married at the home of the bride's parents in Eaton, Ohio, 7 Aug. 1945, Miss Martha Morrow to Lt. (jg) Edward Northcutt Logan, USNR.

PATTON-CONNORS — Married in the rectory of St. Peter's Church, Danbury, Conn., 7 Aug. 1945, Miss Anne Elizabeth Connors to Lt. Oliver Beirne Patton, Inf., USA, (USMA-'44).

PAULSEN-MAKINNEY — Married at Pasadena, Calif., 25 July 1945, Miss Barbara Jane Paulsen, daughter of Mr. and Mrs. J. W. Paulsen of Pasadena, to S. Sgt. Fred W. Makinney, III, AAF, son of Col. and Mrs. Fred W. Makinney, Cav., USA, of Fort Knox, Ky.

RICE-DAVIS — Married in Grace Cathedral, San Francisco, Calif., 21 July 1945, Miss Patricia Davis, daughter of Mrs. Homer Bryan Davis of Coronado, Calif., and the late Lt. Comdr. Davis, USN, to Lt. Frank Tull Rice, USNR.

RIENZI-MOORE — Married in Star of the Sea Church, Jackson Heights, Long Island, N. Y., 11 Aug. 1945, Miss Claire M. Moore to Capt. Thomas M. Rienzi, USA, (USMA-'42).

ROREX-ELLIOTT — Married in the Chapel, US Naval Academy, Annapolis, Md., 18 Aug. 1945, Miss Helen L. Elliott to Ens. Sam Rorex, Jr., USN.

RUTHERFORD-WALTON — Married in the chapel of the Episcopal Church of the Heavenly Rest, New York, N. Y., 22 August 1945, Miss Dona Maude Walton of New York, to Capt. Thomas Downman Rutherford, AAF, of Roanoke, Va., recently returned from service with the 15th Air Force in the European theater of Operations.

SCHAEFER-SLOCKBOWER — Married in Glendale, Calif., 15 Aug. 1945, Miss Barbara Jane Slockbower to Ens. Robert Martin Schaefer, USNR.

SIMMONS-MATTHEWS — Married in the First Presbyterian Church, Earle, Ark., 19 Aug. 1945, Miss Rebecca Matthews to Maj. James E. Simmons, USA.

STEINER-DWORETZKY — Married in New York City, 21 Aug. 1945, Miss Marjorie Louise Dworetzky to Lt. M. Howard Steiner, AAF.

STRATEMAN-LEIRE — Married in Elbach, Germany, 23 July 1945, Lt. Ingrid Helen Leire, ANC, to Capt. Charles M. Strateman, MC, AUS.

SWARTZ-MURPHY — Married in St. Paul's Episcopal Church, Kansas City, Mo., 13 Aug. 1945, Miss Mary Fay Murphy to Lt. William Hayes Swartz, AUS.

TATE-LUCAS — Married in "The Little Chapel" of Glenn Memorial Church at Emory University, Atlanta, Ga., 11 Aug. 1945, Miss Martha Jane Lucas to Lt. E. Franklin Tate, Jr., USNR.

TRAVERS-BOWDOIN — Married in Trinity Episcopal Church, Newport, R. I., 18 Aug. 1945, Miss Aileen Bowdoin, daughter of Lt. Comdr. George Temple Bowdoin, USNR, to Mr. Edward S. Travers, Jr.

WAGNER-TURNER — Married in the Presbyterian Church, Rockville, Md., 23 July 1945, Miss Audrey C. Turner to Lt. S. Mason Wagner, Jr., AUS, both of Washington, D. C.

WALKER-SLICER — Married in Guntton Temple Memorial Presbyterian Church, Washington, D. C., 14 Aug. 1945, Miss Corinne Slicer to Lt. Robert M. Walker, AAF.

WATROUS-ROIG — Married in Christ Episcopal Church, Coronado, Calif., 18 Aug. 1945, Lt. (jg) Carol Roig, USNR, to Lt. David G. Watrous, USNR.

YOUNG-BULLARD — Married in St. Thomas Church, New York City, 16 July 1945, Miss Helen Wall Bullard, daughter of Mrs. Peter C. Bullard, wife of Col. Bullard, USA, to Lt. Mason James Young, Jr., USA (USMA-'44), son of Col. and Mrs. Mason James Young, USA.

Died

ACOSTA — Died at his home in Richmond, Va., 17 Aug. 1945, Maj. Francisco R. Acosta, USA. Survived by his widow and a son, Francisco, Jr., on duty with the Seabees in the Pacific. Maj. Acosta was a veteran of twenty years' service in the Army. His permanent rank was Master Sgt. and he was the ranking Master Sgt. in the Medical Dept. of the Army.

BOHNY — Struck and killed by lightning at Camp Walter, Texas, 16 Aug. 1945, Lt. Alfred W. Bohny, who was released last April from a German prison camp. Survived by his parents, Mr. and Mrs. Alfred J. Bohny of Wyckoff, N. J., and a brother, Donald.

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BROPHY — Died in the sinking of the USS Indianapolis by enemy action in the Philippine Sea, 30 July 1945, Ens. Thomas D'Arcy Brophy, Jr., USNR. Survived by his parents, Mr. and Mrs. Brophy of 45 Brewster Road, Scarsdale, N. Y.

BYRNE — Killed in action over Hamburg, Germany, 6 Aug. 1944, Capt. Austin Patrick Byrne, AAF, (USMA-'42). Surviving are his wife, Mrs. Betty Jane Byrne; a son, Patrick, three sisters, and three brothers.

COVEY — Died at Georgetown University Hospital, Washington, D. C., 21 Aug. 1945, Mrs. Myrtle W. Covey, mother of Capt. John L. Covey, AAF.

GREENWOOD — Killed in action 15 Dec. 1944 on Japanese prison ship off Luzon, Lt. George Hamilton Greenwood, CE, USNR, husband of Capt. Esther Greenwood, USMCWR, Henderson Hall, Arlington, Va.

KNIGHT — Killed in action on Okinawa, 31 May 1945, Pfc. Samuel Young Knight, USMCR, aged 19 years, son of Col. John T. Knight, Jr., CE, AUS (USMA-'17), and Mrs. Knight. Grandson of the late Brig. Gen. John T. Knight, (USMA-'84), and of the late Comdr. U. T. Holmes, USN-Ret. (USNA-'90), and Mrs. Holmes; great grandson of the late Lt. Gen. Samuel B. M. Young. Besides his parents, Pfc. Knight is survived by three brothers, Capt. John T. Knight, III, FA (8th Armored Div.), now in Czechoslovakia; Ens. Richard H. Knight, (USNA-'46), and William C. Knight. Also survived by two sisters, Mrs. Mary J. Sanborn, wife of Col. Kenneth O. Sanborn, AC (USMA-'37), now in the Pacific with the 20th Air Force, and Miss Edith Knight.

LANE — Died in airplane crash near Pensacola, Fla., Air Station, 8 Aug. 1945, 1st Lt. Robert A. Lane, USNR. Surviving are his widow, Mrs. Georgia Faye Lane, and a seven-months-old son, Jeffrey; his mother, Mrs. Ethel S. Lowe of Florida and a sister, Mrs. Cordia Lane Fox of Arlington, Va.

MacKIRDY — Died 11 Aug. 1945 in her 77th year, Mrs. Charles H. MacKirdy, mother of the late Col. Howard S. MacKirdy, CAC, grandmother of 1st Lt. Burt P. MacKirdy, Capt. Wayne H. MacKirdy and 1st Lt. R. Kendall MacKirdy. She also leaves three great grandchildren, Martha, Wayne, Jr., and Lani. She was buried in Manhattan, Kans., 16 Aug.

NEIGER — Killed in action 15 Dec. 1945, while being transported in a Japanese prison ship from Manila to Japan, Maj. John Joseph Neiger, Jr., Inf., USA, (USMA-'35). Survived by his widow, Mrs. Sallie Morfit Neiger, and two sons, John Joseph, aged 8, and Henry Morfit, aged 5, of 7112 Wydown Blvd., Clayton, St. Louis, Mo. Also surviving are his mother, Mrs. J. J. Neiger, sr., of Springfield, Ill.; a sister, Mrs. F. Roe Weise of Evanston, Ill., and a brother, Pfc. Henry T. Neiger, AAF.

NELSON — Died at Fort Jay Hospital, Governor's Island, N. Y., 16 Aug. 1945, Lt. Col. Rowe H. Nelson, AUS. Survived by his widow, Mrs. Avaline Cordova Nelson, and two daughters, Josephine and Elena.

QUINTO — Died at her home, 65 Fairfield St., Valley Stream, Long Island, N. Y., 13 Aug. 1945, Mrs. Mildred G. Quinto, wife of CWO. M. A. Quinto, USA-Ret., mother of Col. Myron A. Quinto, GSC, Mrs. Mabel A. Schwartz, Mrs. Helen G. Bletz, and Miss Grace V. Quinto. Sister of Harry and Miss Ethel Gould of Pensacola, Fla., grandmother of William T. Schwartz, Joan-Anne and Donald Quinto. Interment at Long Island National Cemetery, Pine Lawn, Long Island, N. Y.

RIVERS — Died at St. Elizabeth's Hospital, Washington, D. C., 22 August 1945, Maj. Thomas R. Rivers, USA-Ret.

SELLERS — Killed in action at Pozorrubio, Luzon, P. I., 19 Jan. 1945, Lt. Col. Harry Franklin Sellers, USA, (USMA-'35). Survived by his wife, Mrs. Marie Sellers; his mother, Mrs. Edna Bowen Sellers, and two children, John Marshall, aged 6, and Johanna Marie, aged 4, all of Minneapolis, Minn.

STENGEL — Died at US Naval Hospital, Brooklyn, N. Y., 14 Aug. 1945, Capt. Harry E. Stengle, (SC) USN, husband of Mrs. Mae Ryan Stengle, father of Capt. Harry E. Stengle, III, USAAACR, and grandfather of Harry E. Stengle, IV.

THOMAS — Died in Washington, D. C., 15 Aug. 1945, Mr. Daniel Hagner Thomas, the last surviving son of the late Brig. Gen. George C. Thomas, commanding general of the District of Columbia during the Civil War. Survived by three sisters, Miss Katherine E. Thomas, Miss Edith H. Thomas and Mrs. M. T. Johnson, all of Washington.

TURPIN — Killed on Negro Island, 14 July 1945, 1st Lt. Norman R. Turpin, Paratrooper, of Richmond, Va., husband of Mrs. Katherine J. Turpin of 5325 Kansas Ave., NW, Washington, D. C.

WOODBIDGE — Killed in action on Japanese prison ship off Luzon, P. I., 15 December 1944, Lt. Col. John P. Woodbridge, USA, (USMA-'26). Survived by his widow, Mrs. Mary Lee Matthews of 143 Cloverleaf Avenue, San Antonio, Texas and two daughters, Jane Ann and Joyce and one son, John Jr.

Reduced Rates

Reduced rates for discharged enlisted Army personnel on Hawaiian inter-island vessels have been approved by the War Shipping Administration. The rates will be granted to discharged enlisted men from the Separation Center on Oahu to their homes on outlying Hawaiian Islands, upon presentation of appropriate certificates furnished by the center.

Uniform rates for passenger fare on vessels operated for account of WSA were established in September 1942, and no discounts of any sort have been granted, WSA said. These rates average from eight to ten cents a mile for first class passage, including meals and berth. The five-cents-a-mile allowance granted Army discharges would not cover the cost of transportation fares and the 15 per cent Federal tax. It is expected that the reduced fare will not exceed four cents a mile. The application of the new rates will be in the hands of the Inter-Island Steam Navigation Co., Ltd., agent for WSA, which will file the special tariff or tariff supplements necessary to comply with regulatory statutes.

Need Skilled Divers

Despite demobilization plans already well under way, the Navy Department still has need for skilled divers in the Pacific, it was said this week.

The need for such trained personnel was emphasized anew most recently in the case of Manila, where scuttled Jap ships cluttered the harbor and dock area to such an extent that the Navy's use of port facilities was seriously impeded.

Organized in 1943, the Navy's Ship Salvage Diving School at New Caledonia is the only one of its kind in the Pacific area south of the equator. Approximately 200 men have been graduated as divers qualified to perform the many and varied tasks required in salvage operations.

Thanks Navy Shore Workers

Fleet Admiral Chester W. Nimitz, USN, Commander in Chief, Pacific Fleet and Pacific Ocean Areas, this week congratulated employees of the United States Navy's shore establishments for their support of the men in the Fleet.

"The Commander in Chief, Pacific Fleet and Pacific Ocean Areas, heartily echoes the message of the Secretary of the Navy to the employees of the Navy's shore establishment," Adm. Nimitz said, "The officers and men who serve in the Pacific are well aware of the contribution made by those who labored at home and they too express deep appreciation for the support received."

Navy Lumber

Naval establishments in the United States salvaged 8,600,000 board feet of lumber in June, according to statistics compiled by the Conservation Division of the Office of Procurement and Material.

Much of the salvaged lumber is in shapes and sizes which render it usable for general purposes, the Navy Department said. In some cases, prisoners from Navy Brigs are put to work on lumber salvage. At coastal activities, where large numbers of men are awaiting transportation, they are formed into working parties for salvage operations. Prisoners of war have been used where they are available.

ASF Transfers

Recent changes in assignments within Army Service Forces includes:

Brig. Gens. John B. Murphy, Herbert T. Perrin and George F. Forster assigned for duty as War Department Personnel Center Commanders.

Brig. Gen. Charles H. Karlstad assigned as Commanding General, Reclamation Center, Fourth Service Command vice Brigadier General Halg Shekerjian, assigned to Army and Navy Liquidation Commission.

Lt. Col. Richard C. Davis relieved from Provost Marshal General's Office and assigned to the Provost Marshal General's Pool, Ft. Sam Houston, Texas.

Lt. Col. Samuel H. Duerson relieved from duty at Ft. Belvoir, Va., and assigned to Mobilization Division, ASF.

Veterans' Rights Aid

As a means of providing information to all Navy personnel on veterans' rights and benefits as well as the Navy's civil readjustment program, the Navy Department this week directed Commanding Officers to appoint immediately civil readjustment information officers as collateral duty.

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House Group Urges US Keep Bases in Pacific

Post-war possession by the United States of a chain of bases on Pacific Islands formerly owned by us, our Allies, or Japan, was urged this week in a report to Chairman Carl Vinson of the House Naval Affairs Committee by a subcommittee headed by Representative Ed. V. Izac.

Returning from a tour of Pacific Islands, the subcommittee declared that, "We will have restored peace to the Pacific almost single-handedly and if we are to be charged with the responsibility of maintaining that peace, we must be given the authority and the means by which to maintain the peace—one of the principal means being the authority over strategic islands in the Pacific."

The subcommittee also urged that the United States maintain Armed Forces sufficient to make our hold on the bases effective.

As to the permanent government of the islands, the subcommittee said that it is the opinion that one of two alternate steps should be taken:

(1) either the Navy should assign its best qualified personnel, specialists in government instead of "sea going" officers, to island government duty, or

(2) the governing of these islands should be by civilian administrators, possibly with Army and Navy officers on their staffs.

The subcommittee said that further study should be given to the bases still held by Japanese forces, inasmuch as some of them may hold greater possibilities than those captured by our forces.

Extracts from the subcommittee's report follows:

General

1. For (a) our own security, (b) the security of the Western Hemisphere, and (c) the peace of the Pacific, the United States should have at least dominating control over the former Japanese mandated islands of the Marshalls, the Carolines, and the Marianas—commonly known as "Micronesia"—and over the outlying Japanese islands of the Izu, Bonin and Ryukus.

2. The United States should be given specific and substantial rights to the sites where American bases have been constructed on island territories of Allied Nations.

3. With respect to Manus, Neumea, Espiritu Santo, Guadalcanal and other sites of American bases on islands mandated to, or claimed by, other nations, full title to those bases should be given to the United States because:

(a) These other nations are not capable of defending such islands—they do not possess the manpower and materials that the United States does for the holding and maintaining of these bases; and

(b) As these bases are links in our chain of security, and no chain is stronger than its weakest link, we cannot permit any link to be in the hands of those who will not or cannot defend it.

4. The United States must not permit its Pacific bases to lapse back into a state of unpreparedness, as in the instances of Guam and Wake, prior to the present war.

Strategic

1. The United States strategy of defense in the Pacific should revolve about a center line running north of the Equator through the Hawaiian Islands, Micronesia (the Marshalls, the Carolines, the Marianas), and the Philippines.

2. To maintain this center line of defense, protection must be made against advances from either the north or the south. The northern flank should be composed of defensive fortifications in the Aleutians and Kuriles; the southern flank should be composed of defensive fortifications in the Admiralties, New Hebrides, New Caledonia, and Samoa.

3. Of the bases studied by this Subcommittee the following appear to possess the greatest advantages as main fleet bases:

- (1) Pearl Harbor, Hawaii
- (2) Guam and Saipan, Mariana Islands
- (3) Iloilo, Philippine Islands
- (4) Manus, Admiralty Islands, and
- (5) Neuman, New Caledonia.

4. Secondary bases should be maintained in the following islands:

- (1) Midway Islands
- (2) Okinawa, Ryukus Islands
- (3) Subic Bay, Philippine Islands, and
- (4) Palau Islands.

Some islands still in the possession of the Japanese could not be visited by the Subcommittee and therefore were not considered in these conclusions. However, when such islands are wrested from possession of the Japanese their potentialities should be explored.

5. Fleet anchorages should be maintained in the following places:

- (1) Majuro, Kwajalein and Eniwetok, in the Marshall Islands
- (2) Truk, Palau Islands (Western Carolines), and

(3) Espiritu Santo, New Hebrides.

6. All land plane bases now under the control of the Allies in the Pacific should be retained in operational condition or denied to an aggressor. The majority should be retained, hard-surfaced, and limited permanent housing facilities constructed. In war, all available airfields may be essential, due to the great mobility of aircraft and necessity for dispersion for reconnaissance and protection.

(1) Mactan Island, Cebu, in the Philippines, should be made a main Naval air base with facilities for aircraft overhaul, repair and supply.

(2) Land planes and sea plane bases should be maintained at the following focal points on the perimeter of our zone of defense:

(a) Western—Puerto Princesa, Tawi Tawi and Guisaras in the Philippines; Okinawa of the Ryukus;

(b) Northern—the Bonins, the Kuriles and the Aleutians;

(c) Eastern—Pearl Harbor, Midway, Canton, Johnston and other Hawaiian points; and Samoa; and

(d) Southern—Tontouta, Magenta, Espiritu Santo, Efate, Guadalcanal and others.

Psychological

1. The United States should adopt an intensive program of teaching English to the natives of the islands retained as it is a well-established fact that the greatest friendly relations exist between those who speak the same language.

2. The natives of these islands should be indoctrinated to the American way of life as soon as possible without infringing upon their customs and institutions.

3. The United States should adopt the policy of government in these islands which will encourage the maximum of self-rule at the earliest time.

Any attempt to plan the future policies of the United States in the Pacific must, of course, be based on the best available knowledge. Therein lies the fundamental reason for this study and report of members of the House Naval Affairs Committee on Pacific bases. Later sections of the report contain condensed statements of relative facts about the islands of the Pacific and their people. These facts were gained either through the direct inquiry of the Subcommittee or through the compilation of information by various informed authorities pursuant to the request of the subcommittee.

Basic Assumptions, Unknowns and Missions

Obviously, there are important factors which are not covered and cannot be presented as matters of fact. It is, therefore, necessary that some assumptions be made and clearly set forth for the purpose of the matters discussed in this report. This report is made on the following assumptions:

(1) That the charter written by the United Nations Conference on International Organization will be approved by the major powers that participated in the conference;

(2) That the United States will assume the task of preserving the peace and preventing any aggressive action in the Pacific area;

(3) That this function will require the United States to maintain in the Pacific, adequate strategic bases and forces in condition of readiness prepared to execute such necessary measures as the situation demands, with clearly defined limits within which control by the armed forces of the United States will be necessary and proper; and

(4) That the United States will maintain a Fleet superior to that of any other nation.

In addition to these specific assumptions, it is recognized that there are a number of unknowns which will sooner or later have to be clarified before tentative plans can be made. We must learn or decide:

(1) The nature and function of any international control, supervision and commitments;

(2) The disposition of Japanese civilian nationals now in islands under American control and in those by-passed; and

(3) The American policies of freedom of trade, tariffs, application of coastwise shipping laws, air routes, radio communications, and possible acquisition of American citizenship.

In using the preceding assumptions and our own security as a basis, it appears that our mission in the Pacific relative to bases is dual in character:

(1) The primary mission being to occupy, maintain and defend such bases in the Pacific area as are required to insure our superiority on the sea, on the land, and in the air in order to protect the United States and its possessions against any probable enemy; and

(2) The secondary mission being to occupy the minimum of bases in the Pacific area, prepared to execute such necessary measures as required to prevent aggression in the Pacific in order to assist in maintaining world peace.

Reasons for Retention

To those who challenge the justification for the retention of Pacific bases by the United States we would merely cite:

(1) The loss of American lives in taking these bases;

(2) The expenditure of vast sums of American money in establishing and equipping these bases;

(3) The great dependence of the world upon the United States for maintaining peace in the Pacific and the world, and

(4) The apparent preference of the natives of these islands for the United States govern-

ment.

In other words, we will have restored peace to the Pacific almost single-handedly and if we are to be charged with the responsibility of maintaining that peace, we must be given the authority and the means by which to maintain the peace—one of the principal means being the authority over strategic islands in the Pacific.

Nor must the fact be overlooked that our retention of these islands will be predicated solely upon the desire and responsibility to maintain peace in the Pacific, rather than upon imperialism. Pre-war mandates mean little to enforcement of world peace if the countries that hold them are incapable of maintaining and defending the islands. The United States must retain those islands in Micronesia and the outlying Japanese islands that it has taken—the United States must also retain Manus, Noumea, Espiritu Santo, Guadalcanal, and other islands and places on which it has erected huge American bases in the rescue of the countries below the equator—because:

(1) With the maintenance of peace in the Pacific being primarily the responsibility of the United States, we must have the necessary authority for such responsibility;

(2) That authority means the retention of such islands and bases built by the United States; and

(3) The other nations are either too distant from these Pacific islands, or do not have the necessary strength of manpower and materials, for the maintenance and defense of these strategic islands and bases.

Strategic

Briefly, our strategy of defense in the Pacific should revolve about a center line running north of the equator, through the Hawaiian Islands, the Marshalls, the Carolines, the Marianas, and the Philippines. In terms of area this would mean essentially the Hawaiian Islands, the Philippines and Micronesia, which is composed of the Japanese mandated Marshalls, Carolines and Marianas, and the British mandated islands of the Gilberts. In substance, this means that we must retain all of Micronesia. Also to be included in this retention would be the Japanese islands of the Bonins, Izu and Ryukus.

To maintain this center line we must have protection against advances from either the North or the South. In other words, we should have our Northern and Southern flanks protected. The Northern flank would be composed of the Aleutians and the Kuriles. It is difficult to see how anyone can challenge our retention of authority over these areas after the war.

The southern flank presents the most difficult problem of all, as it is a mixture of islands either held outright by, or under the mandate of, the British, the French, the Australians, the New Zealanders, the Dutch, the Portuguese, and the Chileans. It is in this area that conflicts of interest are the greatest. It is obvious that we cannot permit enemy forces to occupy Australia or New Zealand for to do so would make our center line vulnerable from attack from the south. Here again is the question of responsibility without authority.

It is the opinion of the Subcommittee that the American responsibility for maintaining peace in the Pacific will require the establishment and maintenance of certain (1) main fleet bases, (2) secondary fleet bases, (3) fleet anchorages, and (4) aircraft land bases. These establishments cannot be considered separately—they must be considered in relation to each other as integral parts of a tactical entity and as complements to each other. If the main fleet bases are to be limited in number, it appears that the following priority is advisable:

- (1) Pearl Harbor, Hawaii;
- (2) Guam, and Saipan, Marianas Islands;
- (3) Iloilo, Philippine Islands; and
- (4) Manus, Admiralty Islands; and
- (5) Noumea, New Caledonia.

Secondary bases should be maintained in the following islands:

- (1) Midway Islands;
- (2) Okinawa, Ryukus Islands;
- (3) Subic Bay, Philippine Islands;
- (4) Palau Islands.

Fleet anchorages should be maintained at the following:

- (1) Majuro, Kwajalein and Eniwetok, in the Marshall Islands;
- (2) Truk, Palau Islands (Western Carolines); and
- (3) Espiritu Santo, New Hebrides.

With respect to potential postwar use of land plane bases, the Subcommittee is of the belief that all land plane bases now under the control of the Allies in the Pacific should be retained in operational condition or denied to an aggressor. The majority should be retained, hard surfaced, and limited permanent housing facilities constructed. The peacetime use of each field will determine the amount of personnel and the service facilities to be made available at each field. In war all available airfields will be essential due to the great mobility of aircraft and the necessity for dispersion for reconnaissance and protection.

Cost

The first message to be brought home to the American people is that whatever the maintenance cost might be in the regulation of these islands, it will represent comparatively inexpensive national insurance of continued freedom of the United States and of peace in the Pacific. The major necessary improvements

on these bases have already been made during the War, so that the future expense in the retention of the bases will be that of maintenance and any necessary expansion.

Of course these bases will have to be manned but that can be done with comparatively small garrison forces. At the same time, most of the military and naval establishments on these bases can be put to practical use as training bases. Personnel necessary for the administration of training could supply the backbone of the maintenance personnel.

Character of Government

There is a great deal to be said for military government in the many islands occupied and to be retained by the United States. In the first place, the island commanders and members of their staffs have acquired, through their occupation of these islands, a great deal of knowledge of the natives and the islands. The natives have come to know these men, and the initial barriers in this respect which might exist between a new civilian governor and the natives would be avoided through retention of the present military and naval governments in their islands.

The naval military government has done an excellent job in administration of the islands occupied during this war as contrasted to the islands where American authority has been in force for many years. There is great strength and abundance of ability in the Army and Navy military government ranks because the armed forces have drawn off the cream of the crop of young public administrators and public officials. These men possess native ability and have much experience in dealing with people—particularly in governing them.

On the other hand, it must be recognized that military and civilian administrative proficiencies are distinct, calling for different training, experience, and skill, and that they are directed to different objectives. It is no criticism of the lawmaker or administrator to say that he is not adapted to military commands. It is equally no criticism of the naval officer to say that civil administration is not his proper field. Every American is filled with admiration by the achievement of our fighting men and the soundness and proficiency of the strategy and tactics of those in command. Such are the more potent arguments of those who advocate that in time of peace civilian administration and military command should be separate and correlative functions.

This Subcommittee is of the opinion that one of two alternate steps should be taken with respect to the government of the island retained—

(1) Either the Navy should assign its best qualified personnel, specialists in government instead of "sea going" officers, to island government duty, or

(2) The governing of these islands should be by civilian administrators, possibly with Army and Navy officers on their staffs.

The "sea going" ability of the naval officer is certainly not a criterion of his ability to act in the capacity of island governor. It is more apt to be an indication of his undesirability to act in that capacity, because the earnest and professed desire of "sea going" officers to be at sea is one of the prime traditions of the Navy. It is well known that this results very often in the dissatisfaction of a "sea going" officer in his assignment to shore duty and particularly to duty as an island governor inasmuch as the naval character of his work is greatly diluted. Too often it is the case that a "sea going" officer thinks of his next assignment from the very day that he takes his duties as island governor.

Another weakness of past naval military government has been the lack of continuity in the commands of naval governments. The continuity is imperative in the governing of those islands which we retain. However, there are government specialists in the Navy, predominantly reserves who have expressed their willingness to serve in the naval military government of the islands. A man's desire for a job is the greatest guarantee of his doing a job well.

It is the belief of the Subcommittee that civil administration in all areas not within the limits of the strategic bases is an inevitable concomitant of the maintenance of such bases, and that such civil administration should be directed to the preservation and improvement of the natives. A potential compromise of the opposing views would be to place the civil administration under the Navy Department as a distinct service manned by personnel specifically selected for civil administration of dependent and undeveloped natives and reporting to the civilian heads of the Navy. This service or group might be headed by an Assistant Secretary, charged with responsibility for such civil administration.

Priestley Retracts

J. B. Priestley, noted British novelist, has retracted charges made in a recent series of election speeches during which he alleged the wanton destruction of valuable equipment by American units, the War Department disclosed this week.

Enlistments in Regular Army (Continued from First Page)

within the required period and drawing also their reenlistment allowance.

The complete text of War Department Circular 249, is as follows:

I. General.—1. The purpose of this circular is to prescribe procedures to be followed in accomplishing Regular Army enlistments and reenlistments recently authorized under the provisions of Public Law 72-79th Congress, approved 1 June 1945, which provides:

That, notwithstanding the provisions of the last paragraph of section 127a of the National Defense Act, as amended (54 Stat. 213), the Secretary of War is authorized, during the existence of any war in which the United States is presently engaged and under such regulations as he may prescribe, to accept original enlistments or reenlistments in the Regular Army of male persons who are honorably serving in the Army of the United States, or any component thereof, or who were honorably discharged therefrom not more than three months prior to the date of such original enlistment or reenlistment: Provided, That the number of original enlistments or reenlistments in force pursuant to this Act shall not exceed the total enlisted peacetime strength of the Regular Army now or hereafter authorized by law. The term of service of persons enlisted or reenlisted under authority of this Act shall be for the duration of any war in which the United States is presently engaged and for six months thereafter or for three years, whichever is the longer period.

2. The enlistments of all enlisted men now in the Regular Army will continue in force for the duration of the war plus six months under section 55, National Defense Act, as amended. As virtually all of these enlisted men enlisted prior to 7 December 1941 for a three-year term, their enlistments otherwise would have now expired and, accordingly, will automatically terminate six months after termination of the present war unless they reenlist sooner. It is desired to afford every such Regular Army enlisted man now serving honorably and faithfully the opportunity of applying for discharge from his present enlistment for the purpose of reenlisting in the Regular Army under the provisions of the cited public law.

3. It is also desired to afford enlisted men of the Army of the United States not now having a Regular Army enlisted status, who are serving honorably and faithfully, the opportunity of applying for discharge from their present enlisted status for the purpose of immediately enlisting in the Regular Army under the cited public law. Men who have been discharged under the provisions of Readjustment Regulations 1-1 may also apply for enlistment in the Regular Army within three months after the date of honorable discharge. Such men who apply within 15 days after the date of their discharge may be enlisted. Those who apply later than 15 days after discharge will be advised to volunteer for induction into the Army of the United States through their Selective Service Local Board. Upon induction into the Army of the United States they may apply for discharge for the purpose of enlistment in the Regular Army.

4. Enlistments and reenlistments under the provisions of this circular will be for a period of three years.

II.—Appointment and Duties of Recruiting Officers.—5. A commissioned officer will be detailed as recruiting officer for each regiment, post, camp, station, detachment, or higher echelon, by the commander thereof, and will be appointed a summary court martial for the purpose of administering oaths.

6. Recruiting officers will be charged with the following duties:

a. To act as advisor to the commanding officer in all matters pertaining to enlistments or reenlistments under the provisions of this circular.

b. To accomplish enlistments or reenlistments in the Regular Army as provided herein and to maintain the necessary administrative machinery therefor.

III.—Qualifications for Enlistment or Reenlistment.—7. Original enlistments and reenlistments under the provisions of this circular will be limited to enlisted men who are serving honorably and faithfully in the Army of the United States, or who enlist or reenlist within three months of discharge from such service, and who are physically qualified. In the case of men now serving in enlisted status, performance of full military duty will be accepted as conclusive evidence of physical qualifications for the purpose of enlistment or reenlistment in the Regular Army under the provisions of this circular, and no physical examination of enlisted men performing such duty is required upon discharge for the purpose of such immediate enlistment or reenlistment.

IV.—Procedure.—8. a. Regular Army personnel who desire to reenlist under the provisions of this circular and who are qualified for such reenlistment will:

(1) Be discharged from their present enlistments and reenlisted in the Regular Army, unassigned, as of the day following dis-

charge and in the Regular Army grade from which discharged. Discharge certificate will bear appropriate notation: "Discharged as temporary (grade or rating)..... AUS, (permanent (grade or rating)..... Regular Army)." (2) If holding specialist ratings in the Regular Army, be reenlisted in the corresponding grades as shown in existing conversion tables.

(3) Be temporarily promoted in the Army of the United States on the day of reenlistment to any higher temporary grade held in the Army of the United States at the time of discharge.

(4) Be given the same date of rank as that held at the time of discharge, in both the Regular Army grade and any higher temporary grade to which promoted, as provided above, in the Army of the United States.

b. Enlisted personnel not now having a Regular Army enlisted status who desire to enlist in the Regular Army under the provisions of this circular and who are qualified for such enlistment will:

(1) Be discharged from the Army of the United States and enlisted in the grade of private in the Regular Army, unassigned, as of the day following discharge. Discharge certificate will bear appropriate notation: "Discharged as temporary (grade or rating)..... AUS."

(2) Be temporarily promoted in the Army of the United States on the day of enlistment in the Regular Army, to the grade held in the Army of the United States at the time of discharge.

(3) Be given the same date of rank as that held at the time of discharge, in the Army of the United States.

9. WD AGO Form 21, Enlistment Record, Regular Army, will be handled as follows:

a. A duplicate copy will be made of page 1 only of the enlistment record. That copy will be plainly stamped or marked "duplicate" and mailed by the recruiting officer on the date of enlistment directly to The Adjutant General, Attention SPXPR-1. Air mail will be used for this purpose from Alaska and from points outside the continental United States.

b. The original will be processed through the Machine Records Unit servicing the organization concerned.

10. Authority for discharge.—The authority for discharge for the purpose of reenlistment in the Regular Army will be AR 615-365, Convenience of the Government, and this circular.

11. Enlisted Record and Report of Separation.—Inasmuch as discharge will not result in physical separation of the individual from the Army, only copies 1 and 2 of WD AGO Form 53-55, Enlisted Record and Report of Separation, will be prepared. In preparing this form the word "None" will be entered in items 44 and 46 and the following remark entered in item 55: "No mustering-out pay or travel allowance paid—honorably discharged to reenlist in the Regular Army. WD Circular 249, 1945." WD AGO Form 53-55, Discharge Certificate, will not be delivered to the soldier until after reenlistment is accomplished.

V.—Financial Aspects.—12. Mustering-out payment, travel pay, transportation of dependents and/or household goods, and enlistment allowance.—a. Mustering-out payment.

—Personnel discharged and enlisted or reenlisted pursuant to this circular are not entitled to mustering-out payments at this time. Upon subsequent and complete separation from the service, mustering-out payments will be dependent upon statutes in effect at the time of final separation. Entry in old service record will be made in accordance with paragraph 11c (2), AR 35-2490.

b. Travel pay.—Personnel discharged and enlisted or reenlisted pursuant to this circular are not entitled to travel pay at this time but on subsequent discharge per end of term of service will be entitled to travel pay (paragraph 39, AR 35-4810). Entry of fact of non-payment of travel pay will be made in new service record in the space provided therefor.

c. Transportation of dependents and/or household goods.—Personnel discharged pursuant to this circular are not entitled to transportation of dependents and/or household nor to a monetary allowance in lieu thereof by virtue of discharge and enlistment or reenlistments.

d. Enlistment allowance.

(1) Regular Army enlisted personnel discharged and reenlisted pursuant to this circular are entitled to enlistment allowances in accordance with AR 35-2420; however, pending decision by the Comptroller General as to whether the allowance shall be paid on permanent Regular Army grade or temporary higher grade in the Army of the United States held at discharge, the enlistment allowance will be computed and paid on the basis of the permanent Regular Army grade. In all such cases the following notation will be entered in the service record under "Remarks—Financial:" "Enlistment allowance paid on basis of permanent Regular Army grade."

(2) Enlisted men who do not have Regular Army status, who are discharged and enlisted in the Regular Army under the provisions of this circular, cannot be paid enlistment allowances pending enactment of enabling legislation. In all such cases, the following

notation will be entered in the service record under "Remarks—Financial:" "Enlistment allowance not paid."

(3) Further instructions concerning enlistment allowances will be issued as appropriate.

13. Items of additional pay or allowances.—a. Discharge and enlistment or reenlistment pursuant to this circular does not affect the following items of additional pay provided the requirements of applicable regulations are otherwise met:

(1) Diving pay (AR 775-50 and AR 35-1485).—Enter rating in new service record except where dirated in accordance with paragraph 6, AR 775-50.

(2) Foreign service and sea duty pay (AR 35-1490).—Enter appropriate dates in new service record.

(3) Parachute duty pay (AR 35-1495).—Enter rating in new service record unless dirated.

(4) Distinguished-service award pay (AR 35-1500).—Enter awards in new service record.

(5) Expert and combat infantry pay (WD Cir. 408, 1944, as amended).—Enter data as to award in new service record unless right to wear the badge has been withdrawn.

(6) Pay for Medical Badge (WD Cir. 229, 1945).—Enter data as to award in new service record unless right to wear badge has been withdrawn.

b. Discharge and enlistment or reenlistment pursuant to this circular does not affect the right to the following items of additional pay and allowances provided new orders are issued again placing personnel in a status of entitlement:

(1) Flying pay (AR 35-1480).

(2) Glider pay (WD Cir. 367, 1944).

(3) Monetary allowances in lieu of rations and quarters (in own right) (AR 35-4520).

c. Discharge and enlistment or reenlistment pursuant to this circular does affect the right to monetary allowances in lieu of quarters for dependents. The right to such allowances terminates upon discharge and does not again accrue upon reenlistment. (Paragraph 16, AR 35-4520 and paragraph 46, AR 35-5540). Accordingly, certain enlisted men of the first three grades become eligible for the monthly family allowance benefits and applications therefore will be processed in accordance with AR 35-5540. Initial family allowances are not payable in any case coming within the purview of this circular.

14. Allotments, deductions, family allowance deductions, allotment forms, stoppages and unsatisfied indebtedness.—a. Class E, D, and N Allotments.—Discharge and enlistment or reenlistment pursuant to this circular does not require discontinuances and new authorizations for class E, D, and N allotments. Unless discontinued at the allotter's request, data as to allotments will be transferred to the new service record. In the margin opposite each allotment so transferred, the remark "Transfer from old S/R" will be entered. Where the pay credits of an enlisted man on discharge are insufficient to cover deduction on account of allotments, the action outlined in f below will be taken.

b. Class B deductions.—Class B deductions need not be discontinued unless available accrued pay is insufficient to cover the deductions, in which case the provisions of WD Circular 290, 1944, as amended, apply.

c. Family allowances.—Family allowance deductions will not be discontinued nor will notification to the Office of Dependency Benefits be required. Full deduction will be effected on or subsequent to discharge. Notations in the new service record will be made as outlined in a above. Where the pay credits of an enlisted man on discharge are insufficient to cover family allowance deduction, the action outlined in f below will be taken.

d. Allotment forms.—WD AGO Form 30-S is not required and will not be prepared in case of personnel discharged and enlisted or reenlisted pursuant to this circular. Appropriate amendments to AR 35-5560 will issue. WD AGO Forms 29 and 30 will not be processed except in case of normal discontinuances and new authorizations. Appropriate amendments to paragraph 26a, AR 35-5520, will issue.

e. Stoppages.—All stoppages will be entered on final payment roll or voucher in accordance with AR 35-2480.

f. Unsatisfied indebtedness.—All items of indebtedness remaining unsatisfied upon discharge will be recorded on WD AGO Form 27, which will be prepared in duplicate. The disbursing officer will forward the original copy to the appropriate personnel officer for entry in the new service record and upon subsequent pay rolls. The duplicate copy will be retained by the disbursing officer pending collection of the indebtedness listed thereon. When the indebtedness has been fully collected, the disbursing officer will indicate fact of collection and voucher citation on the duplicate copy of WD AGO Form 27 (as well as on the retained copy of the final pay roll), and forward it to the Army Central Adjustment Office, 366 West Adams Street, Chicago, Illinois. In any case of transfer of an enlisted man from the paying jurisdiction of the disbursing officer who effected final payment prior to full collection, the duplicate copy of the WD AGO Form 27 will be appropriately annotated and forwarded to the personnel officer for inclusion in the rec-

ords jacket and for delivery to the disbursing officer who effects eventual full collection. Fact of full collection with voucher citation will be noted on the form which will then be forwarded to the Army Central Adjustment Office.

VI.—Reenlistment Furlough.—15. Reenlistment furloughs authorized by paragraph 11h, AR 615-275, will be granted or will accrue in accordance with the following:

a. Eligibility for such reenlistment furlough will be limited to those who are discharged for the purpose of enlisting or reenlisting under the provisions of this circular.

b. The length of such furlough will be determined as follows:

(1) Those who have served continuously three years or more will accrue 90 days' furlough.

(2) Those who have served continuously for less than three years will accrue furloughs in proportion to actual time served.

c. Personnel who, under the provisions of this circular, are discharged and enlisted or reenlisted in the continental United States will be granted reenlistment furlough immediately.

d. Personnel who, under the provisions of this circular, are discharged and enlisted or reenlisted outside the continental United States will be granted furlough at the discretion of the overseas commander.

e. Whenever applicable in accordance with existing War Department instructions temporary duty may be authorized in lieu of such furlough.

f. For the purpose of computing total service in determining the amount of furlough or temporary duty to be granted, overseas service of an individual will be counted as double time.

16. An entry will be made in the service record, under "Remarks—Administrative," of each person who enlists or reenlists under the provision of this circular, as follows: "Reenlistment furlough of days accrued per WD Circular 249, 1945, granted (not granted)." Whenever such furlough or temporary duty in lieu thereof, is granted, the above entry will be adjusted accordingly.

VII.—Notification.—17. a. It is the responsibility of the commander of each echelon to see that each Regular Army enlisted man who is serving honorably and faithfully under his command is interviewed by an officer who will explain the provisions of this circular.

b. The interviewing officer, upon completion of the interview, will enter in the service record under "Remarks Administrative" a notation "Provisions of WD Circular 249, 1945, explained to EM (names)....." This notation will be initialed by the enlisted man.

c. The provisions of this circular will be read and explained by a commissioned officer to all other enlisted men.

VIII.—Cross References and Rescissions.—18. This circular does not preclude the statutory right to reenlist in grade of those former Regular Army enlisted men who were discharged to enter upon active duty as commissioned officers or warrant officers in the Army of the United States. Reference: subparagraph 10d (1), AR 600-750, 30 September 1942, as changed by Changes No. 11, 9 March 1945.

19. AR 600-750 and Circular 320, WD, 1944.—a. Pending the printing of changes in AR 600-750, 30 September 1942, paragraph 5a of those regulations is rescinded.

b. Men discharged and enlisted or reenlisted under the provisions of this circular are excepted from the provisions of section II, WD Circular 320, 1944, as amended.

Battleships Collide

Causing ten casualties, two battleships, the Washington and the Indiana, collided in the Pacific on 1 Feb. 1944, the Navy announced this week.

The accident, the Navy Department said, happened just before dawn after the 35,000 ton vessels had taken part in a task force bombardment of Kwajalein atoll in the Marshall Islands. Three men were killed and one injured on the Indiana. Casualties on the Washington were three killed and three missing.

Both ships went under their own power to Majuro for temporary repairs and later to Pearl Harbor for permanent repairs.

Commends American Navy

Admiral of the Fleet Sir Andrew Cunningham, Royal Navy, First Sea Lord of the Admiralty, has expressed "warmest congratulations" to the United States Navy on its success in the war against Japan.

In reply, Fleet Admiral Ernest J. King, USN, Commander in Chief, and Chief of Naval Operations, United States Fleet, informed the British Fleet Admiral of "our sincere appreciation" for the part played by the British Navy "in the mutual victory."

Expand Regular Navy (Continued from First Page)

that the applicant be young enough to give 25 years active service from 7 September 1930 or the date when he first reported for active duty, whichever is later, and officers will be selected who are about the same age group for their rank as now pertains among regular officers. The only exception to above is in case of Medical Corps Officer who must be of an age to give 20 years active service.

(2) Line and Supply Corps Officers who are Ensigns, Second Lieutenants, and above, must have had four semesters (two years) of college or must pass an examination which would disclose equivalent educational qualifications. Other staff Corps Officers should have professional degrees. Educational requirements may be waived by the President or by the Secretary of the Navy for officers with special qualifications. No formal educational requirements for Chief Warrant or Warrant Officers.

(3) All applicants must meet physical standards required by BUMED Manual for rank and corps.

(4) Initial appointment to Regular Navy or Marine Corps will be in the same temporary rank and same precedence now held. Lineal position on the permanent lists will correspond to that of officers now in the Regular Navy or Marine Corps with similar seniority and service. Suitable credit should be given by Law for inactive duty. When temporary ranks terminate after the emergency is over, and the status of all officers is adjusted to meet the requirements of the authorized Navy, those transferred and those now in Regular Navy and Marine Corps will be affected equally and without discrimination.

Detailed instructions concerning the above plan and procedure to be followed in making application will be sent by separate despatch. Because of the urgency, all commands are directed to bring this despatch to the attention of all Reserve and Temporary Officers. Tell them that the Navy desires their applications as soon as they have had an opportunity to consider the above, even though final acceptance and appointment must await the enactment of the necessary Law.

The Navy Department will request legislation which will permit the retention on active duty of a number of older Reserve Officers in senior ranks in order that the Naval Service may avail itself of their particular abilities and experience.

The Navy also directed that future reports on form NAVPERS-353 (Roster of officers) shall contain the notation "Tra" for officers who have applied or contemplate applying for transfer to the Regular Navy.

Will Speed Transfers

To expedite transfer of Reserve and Temporary USN Officers to the Regular Navy, Fleet Commanders, Commandants Naval Districts and River Commands as well as Air Functional Training Commands, have been instructed by the Navy Department to establish boards in adequate number to ensure that there is no delay in interviewing and making recommendations on candidates for transfer.

In the final decision on recommendations for transfer, the Navy Department stated that great weight will be given to performance of sea duty during present war in considering Line Officers other than EDO. In cases where service conditions make it impossible for the candidate to appear at this time before the local board, the application shall be forwarded to BUPERS with a statement of the reason for inability to appear.

Marine Corps Transfers

All Marine Corps Reserve and Temporary Officers on active duty are eligible to apply for transfer to the Regular Marine Corps, but those now serving as Commissioned Warrant and Warrant Officers are not eligible for transfer except with present rank, under a new policy issued by the Navy Department.

Prospective regulations, the Department stated, provide that no person will be transferred to Commissioned Warrant or Warrant rank unless his total possible active service shall equal thirty years on attaining the age of sixty but counting as active service for this purpose only such as may be credited toward retirement under existing law.

Instruction Courses

The War Department has issued Circular 239 containing information with respect to courses of instruction at the Command and General Staff School, Fort Leavenworth, Kansas.

Auxiliary Chaplains

The War Department has adopted a new policy under which it may employ auxiliary Chaplains on a temporary basis from the ranks of civilian clergymen, it was disclosed this week.

Under the new program Auxiliary chaplains will serve under the supervision of commissioned Army chaplains. Their duties will be of a purely religious nature, such as conduct of religious services and emergency ministrations to hospital patients. The ministering to inmates of the guardhouse and counseling men of all faiths, however, will be performed only by commissioned Army chaplains. No auxiliary chaplain will be employed on a full-time basis.

Auxiliary chaplains may be appointed by the commanding officer of the installation on the recommendation of the service command chaplain. The appointment will be purely temporary and service will not exceed one year, on a when-actually-employed basis.

Qualifications for an auxiliary chaplain are the same as those prescribed for commissioned Army chaplains. However, exceptions to the standards presently governing may be authorized by the service command Chaplain where circumstances justify.

Payment for auxiliary chaplains will be drawn from appropriated funds.

High Command May Retire

It became more apparent in Washington this week that shortly after the signing of the formal surrender documents by the Japanese there will follow a virtual exodus of those members of the high command who have labored continuously and without relief since the beginning of the emergency.

General of the Army H. H. Arnold, Commanding General, Army Air Forces, has publicly stated that he hopes to retire in the near future.

Also likely to retire is General Brehon Somervell, Commanding General, Army Service Forces, who has been head of that great organization since its creation by President Roosevelt to expedite the design, manufacture, procurement, transportation, and distribution of the many thousands of items required for global warfare.

As reported last week, it is probable that all members of the Joint Chiefs of Staff, Fleet Admiral William D. Leahy, General of the Army George C. Marshall, Fleet Admiral Ernest J. King, and General Arnold will seek relief from their grueling tasks when peace formally comes. None has had any respite from the arduous grind since the war began and there is a general feeling that they are entitled to turn over their jobs to others and enjoy a much earned rest.

Navy Answers Atom Bomb

The answer to the defense against the atomic bomb has been discovered by the United States Navy, according to sources on Capitol Hill.

Although the Navy, up until the time of this writing, had not confirmed the Capitol Hill report, it is nevertheless understood that through the use of a radar controlled gun it is now possible to bring down anything, including an atomic bomb, within a radius of 50,000 feet.

According to a Capitol Hill spokesman, Navy officials are so confident of the gun's ability that Secretary Forrestal has stated that he believes it will protect the fleet from the danger of atomic bomb attack.

Flight Training

Requests for flight training from officers, other than U. S. Naval Academy graduates classes 1944 and 1945, will not be considered by the Bureau of Personnel until further notice pending consideration of present large backlog of applications from Reserve officers, the Navy announced this week.

The Department said that applications from U. S. Naval Academy graduates classes 1944 and 1945 should bear endorsement by medical examiner as to physical qualifications for flight training and give scores on aviation aptitude tests.

Transport of Dependents

General information pertaining to the transportation of dependents from overseas is contained in the War Department's circular 245, issued this week.

Sea Service Casualties

SAFE

U. S. Navy

†AMch. L. H. Harris

DEAD

U. S. Navy

†Lt. Comdr. J. A. Con-†Lt. Comdr. Herbert
nell R. Trump
†Lt. Comdr. John H.†Lt. (jg) A. C. Breau-
Armstrong, jr.†Lt. (jg) C. M. Wil-
†Lt. Comdr. Earle C. kins
Schneider†Ph. Jess Turnipseed
†Lt. John Boyd†Lt. Comdr. Robt. E.
†Comdr. F. J. Bridget Vandling
†Ph. E. O'N. Hogan†Lt. Comdr. Geo. A.
†Lt. G. K. Lambert Wagner, jr.
†Lt. J. L. Welch†Lt. (jg) W. R. Kaye
†Lt. W. D. Rupert, jr.†Ens. G. F. Cummings
†Lt. J. A. Federowicz†Ens. A. F. Ballman
†Lt. R. H. G. Johnson†Lt. R. W. Irwin

U. S. Naval Reserve

†Lt. Comdr. Frank A.†Lt. (jg) G. S. Seltzer
Davis†Lt. (jg) F. R. Newell,
†Ens. P. W. French jr.
†Ens. J. E. Edgar†Lt. (jg) G. T. Holl-
†Ens. E. A. Gerhard, rock
jr.†Ens. P. B. Wingo
†Lt. (jg) R. G. Wilt-†Lt. (jg) O. J. Allen
gen†Lt. Comdr. D. Glass,
†Lt. B. B. Harris jr.
†Lt. J. R. Lippincott†Lt. (jg) F. X. P.
†Lt. F. L. Raymond Golden
†Ens. E. F. Mullen, jr.†Lt. F. H. Needle
†Lt. (jg) J. R. Abbot†Lt. R. O. Nicholas
†Lt. C. H. McBee†Ens. L. A. Whitaker
†Lt. Comdr. L. LeB.†Ens. F. F. Lauesen
Lyons†Lt. Comdr. Clyde L.
†Lt. E. C. Hicks Welsh
†Ens. R. A. Green†Lt. (jg) A. R. Cleve-
†Lt. Hugh Brown land
†Ens. J. C. Metcalf†Ens. H. J. Coombe,
†Ens. J. C. Needham jr.
†Ens. R. E. Raschick†Ens. J. E. Terhorst
†Lt. R. S. Kaye†Lt. (jg) R. V. Fleeger
†Lt. (jg) P. D. Thomp-†Ens. J. S. Woodside
son†Lt. (jg) W. M. Pearce
†Ens. E. J. Paulavedus†Lt. B. H. Stearns
†Lt. D. A. Horton†Ens. W. H. Plant
†Lt. (jg) R. R. Wuest

U. S. Marine Corps Reserve

*1st Lt. D. M. Steele Capt. J. A. White

WOUNDED

U. S. Naval Reserve

Ens. M. E. L. Pen-†Lt. W. N. Ohly
nington

U. S. Marine Corps

Maj. Gen. L. C. Shep-†Maj. F. A. Seimears
herd, jr.†1st Lt. Jack Willard

U. S. Marine Corps Reserve

Maj. H. J. Adams, jr.†2nd Lt. J. H. Faris
Capt. J. A. Alden†2nd Lt. H. G. Hand,
Maj. J. H. Brock jr.
Capt. M. N. McCarty†WO. L. H. Sugge
Capt. C. G. Stiles, jr.†1st Lt. Edw. Friedson
2nd Lt. W. R. Turner,†1st Lt. J. A. Harper
jr.†1st Lt. W. E. Mahan
1st Lt. J. C. Marvin†1st Lt. C. R. Purn-
2nd Lt. K. G. Sande- hagen
rude†2nd Lt. C. E. Edwards
Pvt. H. J. Schotten-†1st Lt. L. E. Griffin
bauer†2nd Lt. J. W. Gagen
1st Lt. R. W. Smith†2nd Lt. K. C. Hall
Capt. C. Greene, jr.†2nd Lt. M. S. Camp-
2nd Lt. D. H. Her- bell
wehe†1st Lt. R. G. Newton
1st Lt. Ernest George†1st Lt. C. F. Meyer
1st Lt. R. E. Mar-†1st Lt. P. R. Jones
chisio†1st Lt. R. C. Parkhill
2nd Lt. A. Rubenstein

MISSING

U. S. Naval Reserve

Ens. E. W. Baker†Ens. G. G. Haynes, jr.
Lt. (jg) E. L. Vaughan†Ens. C. E. Emboff
Lt. (jg) W. Garber†Ens. M. T. Gill
Lt. (jg) G. W. Smith†Lt. (jg) R. F. Sten-
Ens. O. E. Northing- gelin
ton†Lt. (jg) M. L. Adams

U. S. Marine Corps Reserve

*1st Lt. L. J. Mar-†2nd Lt. W. L. Arnett
kusen

*Previously reported missing.
†Previously reported prisoner.

Veterans' Leave Pay

As a means of assuring returning veterans every opportunity to obtain employment, The Civil Service Commission this week urged enactment of legislation which would authorize payment of accumulative leave to members of the armed forces who return to civilian employment in the Government.

To effect this objective the Commission is urging enactment of H. R. 1828, adding at the same time that the Federal Government as an employer should set an example for the country in seeing that returning veterans are given every consideration for securing employment in positions for which they are fitted.

The Commission stated that it had adopted special procedures and practices whereby veterans are furnished prompt and accurate information on opportuni-

ties for Federal employment and are given special consideration in placements in Federal positions.

More than 14,400 veteran placements were made in the Federal service during the month of November 1944, the Commission said.

"The Commission is of the opinion that there should be no unnecessary delay in promptly placing returning veterans in Federal positions whenever they desire to enter or reenter Federal employment," it was stated. "The Commission believes that the proposed legislation is highly desirable and recommends its enactment."

Status of Enlisted Officers

(Continued from First Page)

O'Laughlin, publisher of the ARMY AND NAVY JOURNAL, Under Secretary Patterson said:

Letter to A-N JOURNAL

"Senator O'Mahoney spoke to me about the editorial which appeared in the ARMY AND NAVY JOURNAL on 14 July on the status of former enlisted men in the Regular Army who have received temporary commissions.

"I have written him a letter, copy of which I enclose, stating the War Department's position on the subject matter of this editorial. As you will see from the letter, we are in agreement on many of the points raised in your editorial, but without corrective legislation, which we will seek, we are unable to change our regulations.

"You are at liberty to print this and the enclosed letter to Senator O'Mahoney if you so desire."

Letter to Senator O'Mahoney

Under Secretary Patterson's letter to Senator O'Mahoney follows:

"You will recall that you spoke to me about the editorial in the ARMY AND NAVY JOURNAL of 14 July on the status of former enlisted men of the Regular Army who have received temporary commissions.

"The editorial stated that War Department rulings deprived men in this category of mustering out pay and reenlistment allowances upon their reenlistment. This is correct except that the Army Regulations under which these payments are made are based, not upon rulings of the War Department, but upon the pertinent statutes and decisions of the Comptroller General.

"Mustering out payments are made only at the time of discharge for the purpose of effecting a permanent separation from the Service. When such men reenlist mustering out pay is not forfeited but accrues to them and is payable at the time of their complete separation. The main purpose of mustering out pay legislation as disclosed in the debates in Congress was to aid veterans in reestablishing themselves in civilian life. This problem does not exist in the case of a discharge from a temporary commission for the purpose of immediately reentering military service.

"As to the payment of reenlistment allowances, the Comptroller General has held that under the statute a man holding a temporary commission does not have an enlistment status and therefore on the termination of his commission a reenlistment allowance cannot be paid. This strikes me as an unfair situation which I would assume was not intended by the Congress. The War Department would support legislation to correct this and will take the initiative in offering corrective legislation on this point in connection with legislation which it will be necessary to obtain in connection with setting up the post war Army.

"As to the point made in the editorial on counting the time served by a former enlisted man as a commissioned officer or warrant officer toward his promotion and retirement and on providing advanced permanent grades in the Regular Army for such men upon their reenlistment, the War Department appreciates that the present regulations are not satisfactory and will propose necessary changes in legislation in order to effect an equitable treatment for the former enlisted men who have served during the emergency as temporary officers or warrant officers.

"I appreciate your interest in this matter."

BUY WAR BONDS

Withdraw Communist Charges

For the second time, the House Committee on Military Affairs has had to withdraw a name from the list of Army personnel it gave out some time ago as having "communist tendencies." The list of men was given to the committee by its investigator, H. Ralph Burton, and subsequently released to the public by the committee. At the time, the War Department vigorously denied the charges and said that all the men had been investigated and proved to be loyal to the United States.

The two men whom the committee subsequently cleared completely are Capt. Henry Clovis Collins and 1st Lt. Edward W. Finkelstein.

As to Captain Collins, Mr. Burton wrote Representative Thomason a letter in which he said "I regret to inform you that this has been found to be a case of mistaken identity."

As to Lieutenant Finkelstein the committee issued an announcement saying, "This is wholly a case of mistaken identity, the result of erroneously transcribing recorded data under considerable pressure, which is very deeply regretted."

Jobs For Veterans

To meet the needs of the increasing number of service men who will be discharged after V-J Day, an expanded program designed to provide maximum employment assistance to veterans has been announced by Frank J. McNamee, deputy chairman of the War Manpower Commission, and Perry Faulkner, chief of the Veterans' Employment Service.

The program provides for special service to all veterans in the 1,500 permanent United States Employment Service offices. A veterans' representative is assigned to each office and a special Veterans' Division is being established to serve under this representative. Under the new program, the USES offices will give qualified veterans priority on job referrals over all other job applicants.

Govt. Paper Ceases Publication

Allied Force Headquarters, Italy—After 32 months of publication the Signal Corps Bulletin of the Mediterranean Theater of Operations has gone out of business, thus becoming one of the first government papers to cease publication. The Bulletin, a two-page, 1800-word mimeographed news sheet distributed daily in MTO, first went to press shortly after American troops hit the shores of North Africa.

The last edition carried General McNamee's message:

"In behalf of the many appreciative readers of the Signal Corps Bulletin, the Commanding General, MTOUSA, desires to thank all the personnel who participated in the publication of this excellent news sheet."

1st Marine Div.

Maj. Gen. DeWitt Peck has been named commanding general of the 1st Marine Division, succeeding Maj. Gen. Pedro Del Valle. General Del Valle's new assignment has not been announced.

FINANCE

Financial Digest

Despite the Government's attempts to follow peacetime production as quickly as possible after war contract termination, retooling of plants, delays in winding up wartime production schedules, and the necessity for "lay offs" during the transition period, cannot help but contribute to the coming post war unemployment problem.

Although the War Production Board has virtually abolished its controlled materials plan, and copper, steel and aluminum supplies are thus made available for families and needed home supplies, and at the same time has outlined a temporary program to assure production of eighty-nine items of low-cost civilian apparel during the interim period until sufficient textiles can be released, it is estimated that at least nine of the nation's principal labor market areas face the prospect of extremely serious temporary unemployment by 15 Oct.

It is further estimated that by 15 Oct., 69 areas will be "labor surplus areas" with 12 to 20 per cent of the work force jobless, that 77 areas will be "in balance" with from five to 12 per cent unemployed; and that nine areas will be classifiable as "stringent," that is with unemployment less than four per cent and an actual shortage of labor for important jobs.

Major plants will probably suffer the least in reconvertng to peacetime production. Smaller plants, however, which will not be able to get into production until such time as their war contracts are terminated, are expected to have financial difficulty in reconvertng, and many may find it necessary to close down until such time as their financial structure will permit them to re-open.

Reconvertng textile mills even for low end goods presents a problem not experienced by other industries. Much of the machinery of the industry has been forced to produce fabrics for which it was never built.

Many textile plants will have to completely rehabilitate their production facilities, thus delaying the return to work of thousands of textile workers, many of whom have gone into other industries paying higher war salaries, and many of whom will be mustered out of the armed forces.

The Federal Works agency has sharply curtailed its expenditures, suspending entirely projects not actually under construction. In addition, recent Army and Navy cutbacks for the production of war materials has already thrown many out of work.

Despite the fact that President Truman has directed wage, price and material agencies of the Government to act together rapidly to promote a quick restoration of the civilian economy, four years of Government regulation over buying as well as selling cannot be untangled in twenty-four hours.

Meanwhile, hearings on the Full Em-

MERCHANT MARINE

ployment Bill (S. 380) have resumed before the banking and currency Committee. Senator Wagner, Committee Chairman, indicated that in view of the imminent cessation of hostilities and of the President's request for action on the measure, he sent wires to the members of the Committee urging them to return to Washington.

The Senator has prepared for use by the Committee, an analysis of 400 letters that he has received commenting on various provisions of the proposed legislation. This analysis will provide the Committee with the view of experts, public leaders and others from all walks of life that would otherwise take up many months of protracted hearings.

Merchant Marine

Masters of two vessels have been awarded Merchant Marine Distinguished Service Medals during the month of July and a chief steward was presented the Meritorious Service Medal, the United States Maritime Commission and War Shipping Administration announced recently.

Also during the month presentations were reported for Mariner's Medals to 32 injured seamen and to the next-of-kin for 166 seamen who have lost their lives serving in the Merchant Marine. These awards are made by the Merchant Marine Medals Award Committee and Seamen's Service Awards Committee and are authorized by Congress under Public Laws 524 and 52.

To date 117 Distinguished Service Medals, 13 Meritorious Service Medals and 4,210 Mariner's Medals have been presented.

Comdr. Charles S. Robbins, USMS, received the Distinguished Service Medal for Action at Leyte, at which time he was in command of the SS Juan De Fuca.

Comdr. John Tryg, USMS, was master of the SS Schoharie, which was loaded with war material in an early Russia bound convoy. Tryg brought the ship safely to her destination.

Lt. (jg) Arthur W. Holden, USMS, was a chief Steward aboard the SS Francis C. Harrington, which was participating in the Normandy beach assault. Holden descended into the hold of the vessel and rendered exceptional service in rescuing the wounded and applying first aid.

The War Shipping Administration has announced that five noted steel yachts are being offered for sale under sealed bids 5 Sept. 1945.

The vessels originally requisitioned by the armed services have been declared surplus and are offered on an "as is, where is" basis. Bidding is not limited to United States citizens.

Largest of the five vessels offered for sale is the Marcasite, a clipper bow yacht built in 1928 by George Lawley and Sons at Neponset, Mass. The vessel is 225 feet by 32.3 feet by 16 feet, powered by two 800 hp Cooper-Bessemer Diesels and has a fuel capacity of 62,500 gallons. She is now located at Bellevue, Wash., where inspection may be made.

The United States Maritime Commission this week announced cancellation of \$425,000,000 in contracts covering construction of 135 ships and 3 contracts for special military equipment.

The contracts cancelled covered 35 coastal cargo ships of the C1-M-Av1 type, 42 Victory cargo ships, 24 coastal tankers for Lend-Lease to Great Britain, 4 Liberty's being converted to aircraft repair ships, 8 military type Victories, 8 tankers, 5 military transports of the C4 type, 6 refrigerator ships and 3 of the P2 type.

Three contracts covering special military equipment for the Navy accounts for \$70,000,000 of the above total.

BUY WAR BONDS

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Development of Atomic Bomb (Continued from Page 1588)

ard Oil Development Company, Cornell University, Carnegie Institution of Washington, University of Minnesota, Iowa State College, Johns Hopkins University, National Bureau of Standards, University of Virginia, University of Chicago, and University of California in the course of the winter and spring of 1940-1941 until by November 1941 the total number of projects approved was sixteen, totalling about \$300,000.

3.13. Scale of expenditure is at least a rough index of activity. It is therefore interesting to compare this figure with those in other branches of war research. By November 1941 the total budget approved by NDRC for the Radiation Laboratory at the Massachusetts Institute of Technology was several million dollars. Even a relatively small project like that of Section 8 of Division A of the NDRC had spent or been authorized to spend \$136,000 on work that proved valuable but was obviously not potentially of comparable importance to the uranium work.

Committee Reorganized in Summer of 1941

3.14. The Uranium Committee as formed in the summer of 1940 continued substantially unchanged until the summer of 1941. At that time the main committee was somewhat enlarged and subcommittees formed on isotope separation, theoretical aspects, power production and heavy water.* It was thereafter called the Uranium Section or the S-1 Section of NDRC. Though not formally disbanded until the summer of 1942, this revised committee was largely superseded in December 1941 (see Chapter V.)

The National Academy Reviewing Committee

3.15. In the spring of 1941, Briggs, feeling that an impartial review of the problem was desirable, requested Bush to appoint a reviewing committee. Bush then formally requested F. B. Jewett, President of the National Academy of Sciences, to appoint such a committee. Jewett complied, appointing A. H. Compton, chairman; W. D. Coolidge, E. O. Lawrence, J. C. Slater, J. H. Van Vleck, and B. Gheradi. (Because of illness, Gheradi was unable to serve.) This committee was instructed to evaluate the military importance of the uranium problem and to recommend the level of expenditure at which the problem should be investigated.

3.16. This committee met in May and submitted a report. (This report and the subsequent ones will be summarized in the next chapter.) On the basis of this report and the oral exposition by Briggs before a meeting of the NDRC, an appropriation of \$267,000 was approved by the NDRC at its meeting of 18 July, 1941, and the probability that much larger expenditures would be necessary was indicated. Bush asked for a second report with emphasis on engineering aspects, and in order to meet this request O. E. Buckley of the Bell Telephone Laboratories and L. W. Chubb of the Westinghouse Electrical and Manufacturing Company were added to the committee. (Compton was in South America during the summer and therefore did not participate in the summer meetings of the committee.) The second report was submitted by Coolidge. As a result of new measurements of the fission cross section of U-235 and of increasing conviction that isotope separation was possible, Compton and Lawrence suggested to J. B. Conant of NDRC, who was working closely with Bush, in September 1941, that a third report was desirable. Since Bush and Conant had learned during the summer of 1941 that the British also felt increasingly optimistic, the committee was asked to make another study of the whole subject. For this purpose the committee was enlarged by the addition of W. K. Lewis, R. S. Mulliken, and G. B. Kistiakowsky. This third report was submitted by Compton on 6 November, 1941.

Information Received from the British

3.17. Beginning in 1940 there was some interchange of information with the British and during the summer of 1941 Bush learned that they had been reviewing the whole subject in the period from April to July. They too had been interested in the possibility of using plutonium; in fact, a suggestion as to the advisability of investigating plutonium was contained in a letter from J. D. Cockcroft to R. H. Fowler dated 28 December, 1940. Fowler, who was at that time acting as British scientific liaison officer in Washington, passed Cockcroft's letter on to Lawrence. The British never pursued the plutonium possibility, since they felt their limited manpower should concentrate on U-235. Chadwick, at least, was convinced that a U-235 bomb of great destructive power could be made, and the whole British group felt that the separation of U-235 by diffusion was

* Uranium Section: Briggs, chairman; Pegram, vice-chairman; S. K. Allison, Beams, Breit, E. U. Condon, H. D. Smyth, Urey. Separation Subsection: Urey, chairman; Beams.

Power Production Subsection: Pegram, chairman; Allison, Fermi, Smyth, Szilard. Heavy Water Subsection: Urey, chairman; T. H. Chilton. Theoretical Aspects Subsection: Fermi, chairman; Breit, C. H. Eckart, Smyth, Szilard, J. A. Wheeler.

(Please turn to Next Page)

Development of Atomic Bomb (Continued from Preceding Page)

probably feasible.

3.18. Accounts of British opinion, including the first draft of the British report reviewing the subject, were made available to Bush and Conant informally during the summer of 1941, although the official British report of 15 July was first transmitted to Conant by G. P. Thomson on 3 October. Since, however, the British review was not made available to the committee of the National Academy of Sciences, the reports by the Academy committee and the British reports constituted independent evaluations of the prospects of producing atomic bombs.

3.19. Besides the official and semi-official conferences, there were many less formal discussions held, one of these being stimulated by M. L. E. Oliphant of England during his visit to this country in the summer of 1941. As an example of such informal discussion we might mention talks between Conant, Campion, and Lawrence at the University of Chicago semi-centennial celebration in September 1941. The general conclusion was that the program should be pushed; and this conclusion in various forms was communicated to Bush by a number of persons.

3.20. In the fall of 1941 Urey and Pegram were sent to England to get first-hand information on what was being done there. This was the first time that any Americans had been to England specifically in connection with the uranium problem. The report prepared by Urey and Pegram confirmed and extended the information that had been received previously.

Decision to Enlarge and Reorganize

3.21. As a result of the reports prepared by the National Academy committee, by the British, and by Urey and Pegram, and of the general urging by a number of physicists, Bush, as Director of the Office of Scientific Research and Development (of which NDRC is a part), decided that the uranium work should be pushed more aggressively.

3.22. Before the National Academy issued its third report and before Pegram and Urey visited England, Bush had taken up the whole uranium question with President Roosevelt and Vice President Wallace. He summarized for them the British views, which were on the whole optimistic, and pointed out the uncertainties of the predictions. The President agreed that it was desirable to broaden the program, to provide a different organization, to provide funds from a special source, and to effect complete interchange of information with the British. It was agreed to confine discussions of general policy to the following group: The President, Vice-President, Secretary of War, Chief of Staff, Bush, and Conant. This group was often referred to as the Top Policy Group.

3.23. By the time of submission of the National Academy's third report and the return of Urey and Pegram from England, the general plan of the reorganization was beginning to emerge. The Academy's report was more conservative than the British report, as Bush pointed out in his letter of 27 November, 1941, to President Roosevelt. It was, however, sufficiently optimistic to give additional support to the plan of enlarging the work. The proposed reorganization was announced at a meeting of the Uranium Section just before the Pearl Harbor attack and will be described in Chapter V.

Summary

3.24. In March 1939, only a few weeks after the discovery of uranium fission, the possible military importance of fission was called to the attention of the government. In the autumn of 1939 the first government committee on uranium was created. In the spring of 1940 a mechanism was set up for restricting publication of significant articles in this field. When the NDRC was set up in June 1940, the Uranium Committee was reconstituted under the NDRC. However, up to the autumn of 1941 total expenditures were relatively small. In December 1941, after receipt of the National Academy report and information from the British, the decision was made to enlarge and reorganize the program.

CHAPTER IV

Progress Up to December 1941

The Immediate Questions

4.1. In Chapter II the general problems involved in producing a chain reaction for military purposes were described. Early in the summer of 1940 the questions of most immediate importance were:

- (1) Could any circumstances be found under which the chain reaction would go?
- (2) Could the isotope U-235 be separated on a large scale?
- (3) Could moderator and other materials be obtained in sufficient purity and quantity?

Although there were many subsidiary problems, as will appear in the account of the progress made in the succeeding eighteen months, these three questions determined the course of the work.

The Chain Reaction

Program Proposed 15 June, 1940.

4.2. In June 1940, nearly all work on the chain reaction was concentrated at Columbia under the general leadership of Pegram, with Fermi and Szilard in immediate charge. It

had been concluded that the most easily produced chain reaction was probably that depending on thermal neutron fission in a heterogeneous mixture of graphite and uranium. In the spring of 1940 Fermi, Szilard and H. L. Anderson had improved the accuracy of measurements of the capture cross section of carbon for neutrons, of the resonance (intermediate-speed) absorption of neutrons by U-238, and of the slowing down of neutrons in carbon.

4.3. Pegram, in a memorandum to Briggs on 14 August, 1940, wrote, "It is not very easy to measure these quantities with accuracy without the use of large quantities of material. The net results of these experiments in the spring of 1940 were that the possibility of the chain reaction was not definitely proven, while it was still further from being definitely disproven. On the whole, the indications were more favorable than any conclusions that could fairly have been claimed from previous results."

4.4. At a meeting on 15 June (see Chapter III) these results were discussed and it was recommended that (A) further measurements be made on nuclear constants, and (B) experiments be made on lattices of uranium and carbon containing amounts of uranium from one-fifth to one-quarter the estimated critical amounts.

(Continued next week)

Letters to the Editor

Service Income Tax

Editor ARMY AND NAVY JOURNAL:

The suggestion that pay be substituted for rental allowance in your recent editorial leaves income tax out of account. Assuming (1) that pay were increased by the amount of the present rental allowances; (2) that rent were charged at the same rates; (3) that the officer had no other income; (4) the officer had of 3, 6, 9, 12, and 15 years' service when serving in the 2nd, 3rd, 4th, 5th and 6th pay periods respectively, the following would be the net losses due to income tax:

Pay Period	Single	One Dependent
1st	\$58.00	\$12.00
2nd	145.00	96.00
3rd	187.00	223.00
4th	225.00	262.00
5th	293.00	294.00
6th	281.00	215.00

Obviously all of the above assumptions are unlikely to be true, but they should be good enough for purposes of example. Income taxes on equal incomes can vary so widely that it was not considered worth the effort to make a more comprehensive table.

CWO, USA

Navy Salvage Plan

A total of approximately \$50,000,000 in salvaged and reconditioned parts and materials has been netted by the Navy as a result of an extensive material salvage program, instituted in 1942, according to Vice Adm. Edward L. Cochrane, USN, Chief of the Bureau of Ships.

Of the 6,500,000 repair parts involved in ship maintenance, many are always critical in one way or another, due either to lack of quick availability or lack of adequate supply. The Salvage Ships, which spread rapidly to all Navy Yards, helped to remedy this by the constant refurbishing of used parts and materials.

Navy Officer at Army School

Lt. James F. Carly, (SC), USNR, is the first Navy officer to attend the Advanced School for Storage Officers at the Utah ASF Depot, Ogden, Utah, which is under the direction of the Army's Quartermaster General. He is attending the course to observe the Army's warehousing system and teaching methods.

Lt. Carly is an instructor in materials handling, specializing in shiploading, at the Naval Supply Operational Training Center, Bayonne, N. J.

Gen. Shekerjian on ANLC

Appointments of Brig. Gen. Haig Shekerjian and Ernest S. Dowd, of Cleveland, Ohio, to serve as top officials on the ANLC staff in Cairo, Egypt, were announced today by Maj. Gen. Donald H. Connolly, Deputy Army-Navy Liquidation Commissioner.

Mr. Dowd will be Deputy Central Field Commissioner and General Shekerjian will be Assistant Central Field Commissioner under Mr. John C. Virden, Central Field Commissioner for the disposal of overseas war surplus in the African-Middle East and Persian Gulf Area.

U. S. COAST GUARD

PLANS for the release of all but 34,900 of its 172,384 officers and enlisted personnel within the next ten months, have been announced by the Coast Guard.

Eleven separation centers already have been set up to speed demobilization of the Coast Guardsmen and Spars, who will be released at a minimum rate of 13,800 a month. Three other centers will be established by September 1. Seagoing personnel eligible for discharge will be routed through intake centers at Alameda, Calif., and Manhattan Beach, N. Y.

Coast Guard demobilization plans are based on the Navy's point system under which officers must have 49 and enlisted men 44 points. Spars must have 29 points.

Headquarters said that officers and men who need three or fewer points for discharge will be kept within the United States and not assigned to sea duty. Only Coast Guardsmen who will not be eligible for discharge under the point system are 11,507 enlisted technicians and 1,597 officers on specialized duty whose functions are essential to the demobilization.

Rear Adm. Stanley V. Parker, district Coast Guard officer of the Third Naval District and captain of the Port of New York since 1942, has departed his post to

assume his new post as Pacific Coast coordinator. His successor is Rear Adm. Edward H. Smith.

Adm. Parker was commended in a citation read by Commodore Frederick T. Reinicke, USN, port director. The citation praised the departing officer for directing the flow of supplies through the port and protecting its vessels and facilities.

New London's Thames River became a busy spot on 19 August as U. S. Coast Guard Academy played host at two events. The crews of six or more colleges met on the Thames in the preliminaries of the 3rd Annual Inter-Collegiate YARA's International Star Class Championship and Coast Guard's "swabs" or Fourth Classmen, tackled M.I.T.'s freshman team in a dual meet in the 12-foot dinghies.

No less than 13 colleges filed preliminary entries for the ICYRA's Star Championship, the finals of which will be held over the weekend of 8 and 9 September. As the finals are limited to only eight crews, the Executive Committee of the Association after sifting the entries voted to send five teams into the finals on the basis of past records and other factors.

CLASSIFIED

Rate: 7 cents per word; minimum \$1.00. Forms close 5 p. m. Wednesdays. Payment must be made before publication. Phone Hobart 6477.

COUNTRY HOMES

GENTLEMAN'S HOME, on Potomac Bridge Highway, 30 miles Washington, 12 rooms, modern conveniences, artesian well, fine old trees, shrubbery, fruit, farm buildings. 10 acres, \$20,000.00. Request list and map. LEONARD SNIDER, LA PLATA, MARYLAND.

FOR SALE

100 acres near Richmond, ante-bellum home, modernized. 2 baths, heat, etc. \$17,500.00. G. B. LORRAINE, Law Building, Richmond 19, Virginia.

Virginia Tidewater farms. All sizes and price range. Free catalogue. Easy terms finance. Productive farms 20 years at 4% interest. Only 25¢ cartage per year required. W. C. BROOKS, Realtor, Phone 89FS, Box 385, Tappahannock, Virginia.

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Attractive homes for retired Officers in the delightful little city of "Bradenton on the Manatee." Sidney G. Brown, Registered Broker, with Wyman, Green & Blalock, Inc., Box 411, Bradenton, Florida.

RETIRING? THEN LIVE IN ASHEVILLE, N. C. The finest all-year-around climate in the United States. Never too hot in summer, never too cold in winter. Our elevation is 2200 feet. We now have a large colony of retired Army and Navy officers. I am associated with an old established firm dealing in city homes, suburban properties, farms, and building sites. For full information write Lt. Col. C. B. King, Retired, c/o Dillard Realty Company, Asheville, N. C.

Miami Beach homes are easily financed. Contact Col. Ralph M. Parker, c/o Marion Butler, Realtor, 1616 Alton Road, Miami Beach, Florida.

"UTOPIA" Stuart, Florida, near "CAMP MURPHY." Inviting Army and Navy families to join us. Write Dehon & Sons, for colorful map.

SARASOTA, FLORIDA. How about buying that house or homesite before you retire? Our retired service personnel await your orders. Write R. W. Clark, with Roger V. Flory, Realtor.

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Antique and modern firearms and edged weapons bought and sold. Catalog 25¢. Robert Abels, 880-N Lexington Ave., New York 21.

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Wardrobe Plan Shopping Service by Stylist. Clothes classified brought up-to-date, minor alterations. Michigan 0046, Boone, 2700 Que N. W.

WANTED

Band Master—Junior R.O.T.C. Military School. Address: H. J. Benchoff, Woodstock, Virginia.

Edwards Military Institute desires the services of a discharged veteran who has had either Army band experience or in civilian life had a similar background. Mail your reply directly to the President, Edwards Military Institute, Salemburg, N. C.

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Your name—new, practical, individual rubber name stamps or serial number that you can make up in one minute. Ready cut, air-cushioned letters stick on holder like postage stamps, non-smearing, quick, clean, easy to mark your personal things. Name and number, or two names with indelible outfit for \$1.00. Letters, periods, type case and holders sufficient for 100 names, \$30.00; figures \$2.95 per gross. Regulation size, E. Z. RUBBER STAMP WORKS, 519 Shirley Street, Winthrop 52, Massachusetts.

USMC Changes

The following changes affecting the status of Marine Corps personnel have been announced:

Col. Robert C. Bisson from duty overseas to temp. duty, on completion of which ordered to duty at Cherry Point, N. C.
Col. Blythe G. Jones from duty in San Francisco, Calif., to U. S. Naval Hospital, Bethesda, Md.

Col. Melvin J. Maas from duty overseas to duty Headquarters, Marine Corps.
Col. Hayne D. Boyden from duty overseas to duty Santa Barbara, Calif.

Lieut. Col. Hugh C. Brewster, Retd., from El Centro, Calif., ordered home to be relieved from active duty.

Lieut. Col. Bruce T. Hemphill's previous orders to San Diego Area modified; to duty Quantico, Va.

Lieut. Col. Harry W. G. Vadnais's previous orders to San Diego Area modified; to duty at Headquarters, Marine Corps.

Lieut. Col. James C. Murray, Jr., on discharge from U. S. Naval Hospital, Bethesda, Md., to duty at Headquarters.

Lieut. Col. George H. Ford's previous orders to duty San Diego Area modified; to duty Washington, D. C.

Lieut. Col. Henry L. Heming detached from duty in New York, N. Y., to duty in Philadelphia, Pa.

Lieut. Col. Edward H. Hurst detached from duty at Mare Island, Calif., admitted to U. S. Naval Hospital, Pensacola, Fla.

Lieut. Col. John H. Masters detached duty Headquarters, Marine Corps, ordered duty overseas.

Lieut. Col. William F. Thyson, Jr., ordered detached duty in San Francisco, Calif., ordered home relieved active duty.

Lieut. Col. Frederick H. Lemmer detached duty overseas admitted U. S. Naval Hospital, Mare Island, Calif.

Lieut. Col. James H. Moffatt, Jr., detached duty overseas ordered duty San Diego Area.

Lieut. Col. Gregory J. Welzenberger detached duty Jacksonville, Fla., duty at Eagle Mountain Lake (Fort Worth), Tex.

Previous orders Lieutenant Col. John J. Wernuth, Jr., to duty San Diego Area modified; to temporary duty Fort Sill, Okla., on completion of which ordered to duty at Quantico, Va.

Lieut. Col. Paul D. Sherman detached duty overseas to duty Headquarters, Marine Corps.

Lieut. Col. Russell Lloyd detached duty San Diego Area to duty overseas.

Lieut. Col. William W. Stickney from temporary duty Headquarters, Marine Corps, to duty overseas.

Lieut. Col. Robert C. McDonough from duty overseas admitted to U. S. Naval Hospital, Treasure Island, San Francisco, Calif.

Lieut. Col. Robert W. Shaw from duty Camp Lejeune, N. C., to duty overseas.

U. S. War Roundup

GEN. MACARTHUR'S HQ., PACIFIC

15 Aug.—Japanese capitulation having been announced, no further formal communique will be issued from this headquarters.

ADM. NIMITZ' HQ., PACIFIC

No. 406, 14 Aug.—Liberators of the Eleventh Army Air Force on 13 Aug. bombed enemy installations at Suribachi on Paramushiru Island and at Kataoka on Shimushu in the Northern Kuriles. On the same day Privateers of Fleet Air Wing Four damaged installations at Kurabu Cape on Paramushiru.

No. 467, 15 Aug.—Orders have been issued to the U. S. Pacific Fleet and to other forces under the command of the Commander in Chief, U. S. Pacific Fleet and Pacific Ocean Areas to cease offensive operations against the Japanese.

No. 468, 15 Aug.—Units of the United States Third Fleet in the vicinity of Honshu are being approached by Japanese aircraft. Those that do so are being shot down by our forces, five Japanese aircraft having been destroyed since 1200, Japanese time, 15 August 15.
General MacArthur, Supreme Allied Commander for Japan, has been requested to inform Japanese authorities that our own measures for defense require our naval forces to destroy any Japanese aircraft approaching our dispositions.

GEN. WEDEMEYER'S HQ., CHINA

15 Aug.—Final offensive air operations of the war in the China theatre took place 14 Aug. when P-51's of the Fourteenth Air Force, operating under over-all direction of Lt. Gen. George Stratemeyer's AAF headquarters, damaged a number of enemy-occupied buildings at Lingling and Siangtan, in the Siang River valley.

Army Casualties

United States Army casualties as reported through 14 Aug. 1945, follow: killed 190,183, wounded 570,997, missing 33,653, and prisoners 118,924—a total of 922,757.

Of the wounded, 356,331 have returned to duty. Of the prisoners, 96,337 have been officially listed as exchanged or returned to military control.

Japanese Surrender

Although the actual Japanese surrender has not been officially signed American military leaders under General Douglas MacArthur, have formally passed the first step of the complete Japanese capitulation.

The Japanese delegation met General MacArthur and his staff in Manila, and the latter's reception of the group was described in news dispatches as anything but warm. Six of the Japanese conferred with Gen. Richard Sutherland, General MacArthur's Chief of Staff; Rear Admiral Forest P. Sherman, Navy assistant Chief of Staff for planning in the Pacific; Maj. Gen. Stephen J. Chamberlin, Gen. MacArthur's assistant chief of staff; Maj. Gen. Charles A. Willoughby, Gen. MacArthur's intelligence officer; Maj. Gen. Lester J. Whitlock, Gen. MacArthur's supply officer, and Brig. Gen. Donald R. Hutchinson, chief of staff, Far East Air Force.

Meanwhile there were unconfirmed reports that Lt. Gen. Robert L. Eichelberger, 8th Army commander now in Manila, and Lt. Gen. Jonathan M. Wainwright, might attend the formal surrender ceremony in Japan.

Navy Reenlistment Leave

The temporary suspension of reenlistment leave for enlisted men has been lifted, and thirty days reenlistment leave exclusive of travel time has been authorized, under a new policy announced this week by the Navy Department.

Under the new program all enlisted men, Regular Navy, who have not received reenlistment leave to which they are entitled during current enlistment following an expiration of enlistment discharge shall be granted their reenlistment leave at the earliest opportunity.

Naval Reserve and USN-I enlisted men who have been discharged and subsequently enlisted in Regular Navy or who may hereafter enlist shall also be entitled to receive reenlistment leave.

All such men now attached to overseas ships and stations shall be returned to the United States at the earliest opportunity and be transferred to the nearest continental receiving station for reenlistment a leave and reassignment.

U. S. Dominating Power

The greatest danger that any nation with a scheme for world domination faces is the United States, declared General of the Army H. H. Arnold, Commanding General, Army Air Forces, last weekend.

The General said that the last two wars have shown that no such scheme can possibly succeed as long as the United States is left free to throw in its unimpaired economic and military potential, and added that it will be necessary to dispose of the United States first, and for the first time in history disposing of the United States first may be perfectly practicable if we make the wrong decisions.

"Our possession of power, which, in a just proportion, we can make available to the United Nations in the maintenance of peace," the General said, "is the best guarantee of maintaining this collective peace. If the nations of the world find that they cannot act in concert, our possession of power will be our only resource. Therefore, we must at all costs maintain it."

General Arnold urged that an ably staffed, adequately financed and properly equipped research and development program be established and maintained. He also stated that it was his belief that some means of universal military training be programmed.

Discharge Buttons

Any individual entitled to wear the honorable discharge emblem or the lapel button for service and who has not been issued the authorized allowance of these emblems and buttons may obtain them from any Army installation, other than ports of embarkation, by presenting evidence of honorable discharge or separation from the Army, the War Department has announced.

Each honorably discharged person is entitled to one lapel button, and to one discharge emblem for each military outer garment authorized for retention upon being honorably discharged. Army officer personnel are allowed six honorable discharge emblems.

Navy Promotions

The following temporary promotions and reappointments of officers of the Regular Navy and Naval Reserve were made this week:

REGULAR NAVY

Captain to Rear Adm.

Cato D. Glover, Jr. Austin K. Doyle

Reappointed Commodore

Benj. V. McCandlish Elliott B. Nixon

Oscar Smith

Capt. to Commo.

William S. Parsons

Comdr. to Capt.

Paul D. Cross Earl T. Schreiber

Robert V. Hull

Reappointed Comdr. (Ret.)

Henry H. Strozler

Lt. Comdr. to Comdr.

Francis B. McCall

Lt. to Lt. Comdr.

Eugene L. Conant Robert C. Nichols

Robert L. Holt

Reappointed Lieut.

Rudolph Brandman John A. Zehner

Thomas E. Smith

Lt. (jg) to Lt.

Robt. G. Dunn, Jr. Leslie M. Montgomery

(MC) Robertson C. Dailey

James R. Hicks

Ensign to Lt. (jg)

William C. Boswell C. T. Lancaster

(HC)

Acting Pay Clerk to Ch. Pay Clk.

Anthony J. Hutton

Carpenter to Ch. Carp.

Willitt J. Beck

Reappointed Lt. Comdr.

Sam H. Jones Theo. S. Stern

Lt. to Lt. Comdr.

Robert B. Bolt Albert H. Sturgess

Walter Cooper Thomas H. Garber

Henry L. Stickney Russell Kramer

Cone H. Johnson George T. Marlon

James H. Smith R. D. Pine, Jr.

Matthew E. Hanna Eugene R. Page

Joseph P. Shaw Lloyd G. Benson

Carl P. Hagensen

Reappointed Lt.

Lewis S. Larkin William J. Little

Lt. (jg) to Lt.

J. D. McClendon James A. Clarke

Thomas R. McCabe John J. Flaherty

Edward R. Meyer M. C. Kendrick

Harold I. Gross William H. Jones

Reappointed Lt. (jg)

Donald Forcum Stephen G. Allen

Lewis S. Larkin LeRoy H. Welch

Ensign to Lt. (jg)

Harold M. Channess Isidore Ehrenreich

Robert W. Mosley C. G. Elzak

Walter G. Propst William W. Roberts

Robert L. Purdy Alfred D. Bogan

Russell C. Roate Raymond J. Vincent

DeW. E. Blackwell Roy E. Julie, Jr.

Charles P. Kleiman

Reappointed Ensign

William J. Little LeRoy H. Welch

Donald Forcum Stephen G. Allen

NAVAL RESERVE

Reappointed Capt.

George C. Miller

Comdr. to Capt.

John Ford Wm. E. G. Taylor

Louis H. Gwinn Ira J. Varnedoe

Reappointed Comdr.

C. S. Sargent Willis H. Sargent

Lt. Comdr. to Comdr.

Carl L. Estes Richard Kay

Francis W. Hackett William F. Lally

Ferd R. Hayes Orman C. Perkins

Comdr. Mason With RCA

Lt. Comdr. Wayne Mason, USCG, has been appointed Assistant Manager of the New York office of the RCA Frequency Bureau, at 60 Broad Street, Dr. C. B. Jolliffe, Vice President in Charge of RCA Laboratories, announced this week.

In his new position, Commander Mason will handle matters pertaining to frequency allocations and station licenses for the Radio Corporation of America, its subsidiaries and services. These include the fields of sound broadcasting, television, international point-to-point communications, marine communications and experimental operations.

To Wear Campaign Ribbons

Certain outstanding and specially deserving, accredited civilians, including war correspondents and Red Cross workers, are to be granted the privilege of wearing area theater campaign ribbons.

This privilege is to be considered a special tribute accorded only to civilians whose work has meant living long periods of time under difficult and hazardous conditions and whose presence has contributed to the effectiveness of our forces and the welfare of personnel.

BUY WAR BONDS

Opposes Naval Aviation Academy

Arguing that a separate aviation academy is as unnecessary for the Navy as would be individual academies for submarine, battleship, or supply training, Acting Secretary of the Navy Hensel has recorded the Navy Department as opposed to the enactment of H.R. 3404, a bill providing for the establishment of a U. S. Naval Aviation Academy.

In a letter to Representative Vinson, Ga., chairman of the House Naval Committee, Acting Secretary Hensel said:

"It is the established policy of the Navy Department to train midshipmen as general service officers, with thorough indoctrination in all phases of the Naval service. The effective performance of their aeronautical duties by permanent officers of the regular Navy designated as Naval aviators requires a comprehensive knowledge of naval operations which can be obtained only from training in the general duties required of regular line officers.

"For this reason the fundamental training at the Naval Academy, followed by a tour of general duty in the fleet prior to a course of instruction in naval aviation, is considered the best method to produce aviation officers who may eventually succeed to higher command ranks. Specialization is not allowed until after graduation from the Naval Academy and, as a matter of policy, until after a number of years with the fleet. There appears to be no more reason to create a separate academy, specializing in aviation alone, than to establish individual academies, for example, for specialized submarine, battleship, or supply training.

"The Navy Department now maintains naval aviation training stations at which candidates for designation as naval aviators receive not only basic flight instruction but also a broader experience in aviation with respect to its adaptation to the requirements of the fleet. It is believed that the competence demonstrated by aviation officers produced under existing training concepts in the present war is ample evidence of the excellence of the present procedures."

Marine Corps Retirements

Maj. Jerry William Blazek, USMC
Maj. Percival Lowe Wilson, USMC
Maj. Crusselle Dewey Woodward, USMCR
1st Lt. Lawrence Bruer Brody, USMCR
1st Lt. Jabe Edmund Hoggard, USMCR
1st Lt. Joseph Benedict King, USMC
1st Lt. Louis Russell Simpson, Jr., USMCR
1st Lt. Conrad Stein, USMCR
2nd Lt. Harold Henry Berndt, USMCR
2nd Lt. Byron Jack Bird, USMCR
2nd Lt. Edward Francis McGilvery, USMCR
2nd Lt. Leo Aloysius Schoppmeyer, USMCR
2nd Lt. Ferdinand Reis Stent, USMCR
2nd Lt. Harold Allen Wright, USMC
WO Ovid Butler, USMC
WO Alex Spooner, USMC
WO Olen Dellus Witten, USMC

Citation to Anti-Sub Group

For extraordinary heroism during the capture of an enemy German submarine off French West Africa in June, 1944, an anti-submarine task group consisting of the USS Gundalcanal, USS Pillsbury, USS Pope, USS Flaherty, USS Chatelain, USS Jones and Composite Squadron Eight, have been awarded the Presidential Unit Citation.

After forcing the U-boat to the surface, members of a boarding party from the anti-submarine task group brought the vessel under control for the first successful capture of an enemy man o' war on the high seas by the United States Navy since 1815.

Surplus Property

Officers and enlisted men returning to civilian life are given preference, over non-veterans, in the purchase of surplus war property. Veterans entering business may arrange for credit with the Government for this purpose.

The Smaller War Plants Corporation, Washington, D. C., buys surplus war property from the Surplus Property Board for resale to veterans and small business men. Maury Maverick, Chairman of the Smaller War Plants Corporation, advises that his agency will gladly answer all inquiries from those interested.

Army Plant Disposal

Built at an estimated cost of \$1,484,352,337, the War Department this week announced a list of 252 government-owned plants which are no longer needed by the Army.

They will be available, shortly, for disposal through the Reconstruction Finance Corporation.

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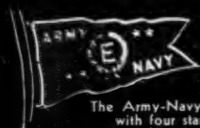
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The Army-Navy "E" Flag
with four stars, flies
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LOOKING AHEAD



New ideas and new devices come thick and fast in wartime. America's manufacturers have worked tooth and nail with the Army and Navy to produce all the modern equipment the armed forces need.

Among these manufacturers is Lear. The Lear aircraft radio was well known long before the war. It was ready for the armed forces when war came. Then Lear explored new fields and produced the special Lear midget motors, the Fastop Clutch, and Lear Actuators which make it possible to move airplanes' flaps, shutters and landing gears accurately by electricity.

All Lear wartime developments couldn't be mentioned here. Many of them and the engineering ingenuity which produced them will be turned to peacetime conveniences and pleasures.

For example, there will be the new Lear home radios — instruments built with the integrity demanded by aircraft radio and equipped with facilities unknown in such sets before.

So while everything keeps going to get wartimes over with, we can afford a look ahead to the bright spots in the peace we have been fighting for.

PLANTS: Fluke, O., and Grand Rapids, Mich. BRANCHES: New York, Los Angeles, Chicago, Detroit, Cleveland



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With a TR on his shoulder

... AND THE KNOW-HOW UNDER HIS HAT

You'll find him in every corner of the world where American weapons of war are in action...

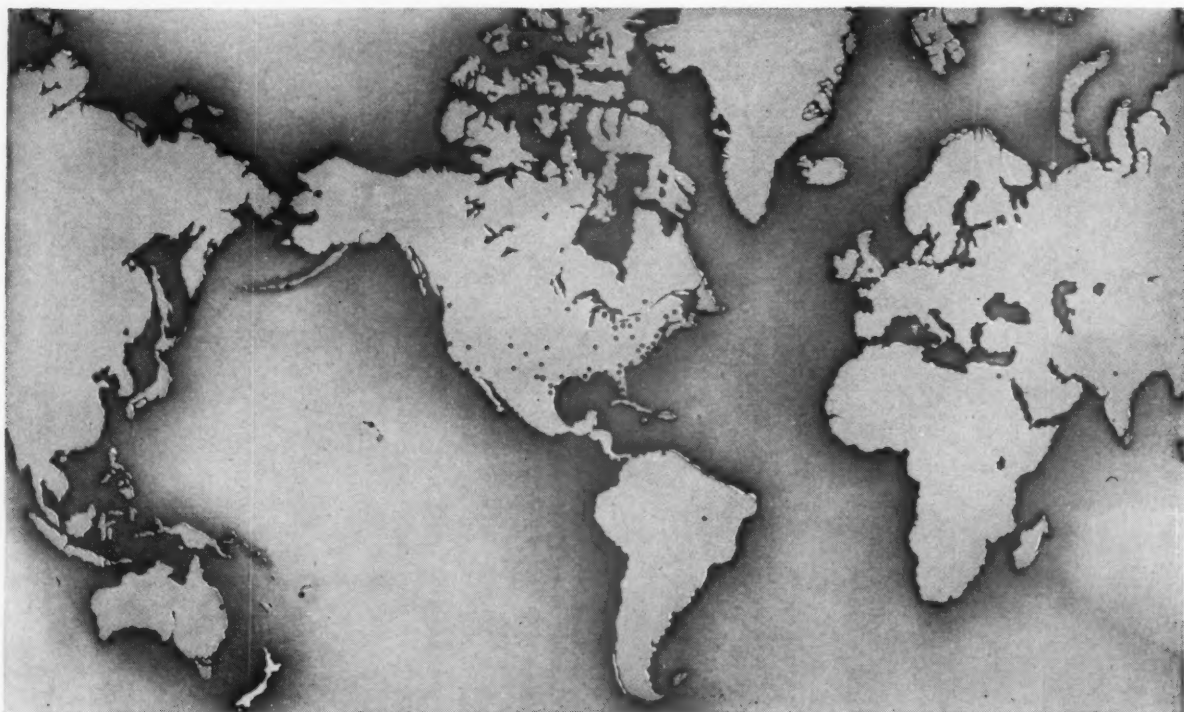
Wherever American precision instruments are guiding planes and projectiles and subs toward their targets, and ships toward their destinations.

He's in uniform, but he's a civilian. And his shoulder patch reads "Tech Rep." which stands for *Technical Representative*.

TR's not only help to see that our complex weapons perform reliably

under combat conditions—they help our soldiers, airmen, sailors, and seamen to understand the new devices which are constantly reaching the fighting fronts... new planes... improved gun sights... intricate flight instruments... ship navigating instruments.

And, in the course of his duties, the TR sometimes stops hot lead. Occasionally he becomes a prisoner of war. For his duties often mean sweating it out in a foxhole, or riding in a bomber on an actual mission.



Wherever our Armed Forces go—there's a Sperry TR

The Sperry TR's, and their associate Field Engineers in this country, number nearly 600. Most of them are graduate engineers. They receive highly specialized schooling, and then put in months getting experience here at home.

For, once on their own in some remote spot, they must be able to keep the gyros spinning in bombers, fighters, and transport planes... to repair a shot-up computing sight... to adjust a revolving gun turret... to overhaul a ship's Gyro-Compass... to repair a damaged

hydraulic ammunition hoist.

American Generals and Admirals have said fine things about TR's. One of them, describing Sperry TR's as "indispensable," recently said that not only have they trained thousands of Servicemen in the proper maintenance of equipment made by Sperry, but, "through observation of combat performance, have been instrumental in indicating improved methods of manufacture and maintenance." Many TR's, he added, have performed this service at great personal risk.

SPERRY

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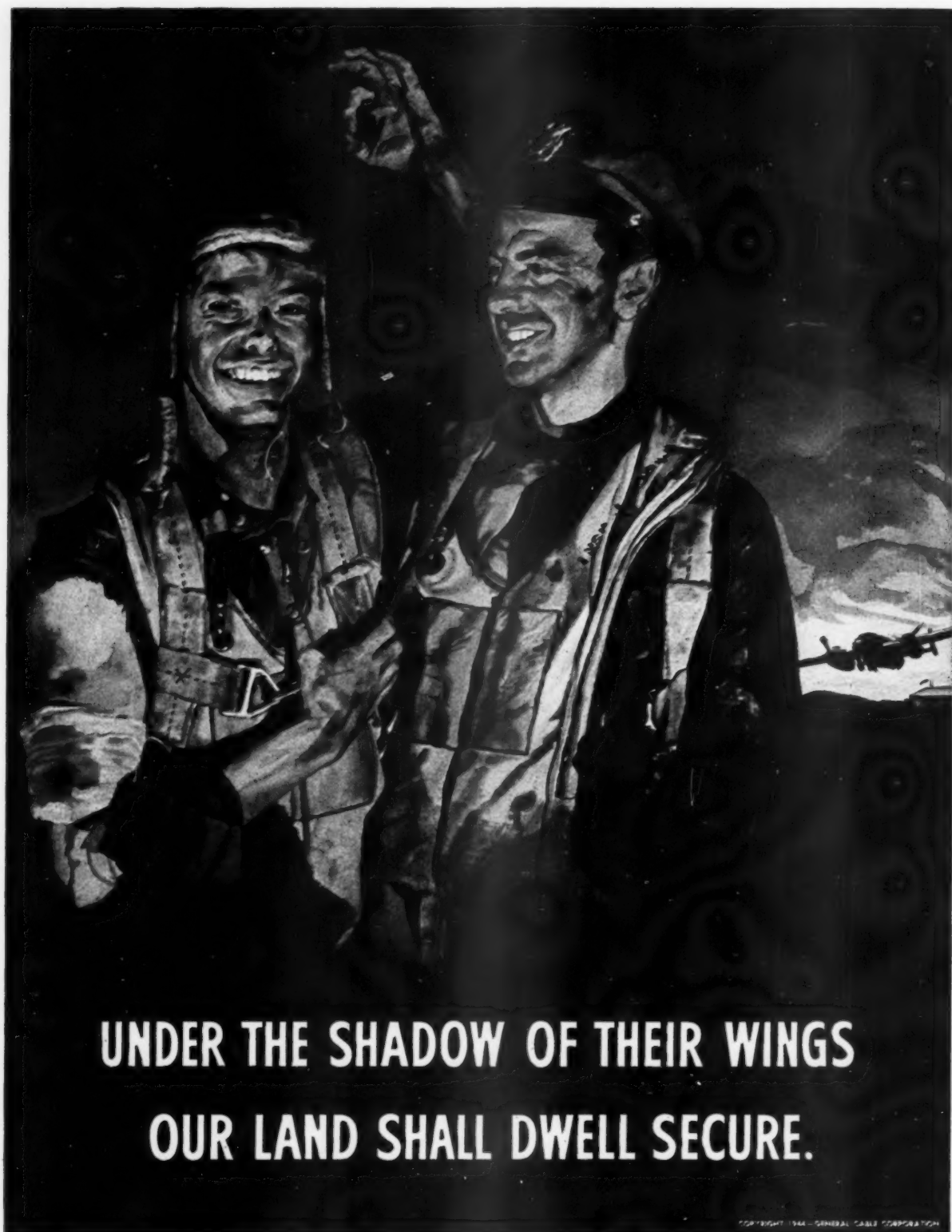
Through the following Divisions, our TR's help to see that Sperry precision instruments and controls serve the Armed Forces on land, at sea, and in the air...

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SPERRY GYROSCOPE CO., INC. • VICKERS INC.
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Amphibious operations mark Allied offensives on both sides of the world. The oil painting reproduced above, "Assault Wave, Salerno," was made by Lieutenant (jg) Mitchell Jamieson, USNR, one of the Navy's officer-artists on combat assignments.



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In tribute to the courage and the consecrated skill of the fighting fliers of the A. A. F., this war plant poster is gratefully dedicated to those who daily risk their lives that America may be preserved.

G E N E R A L C A B L E C O R P O R A T I O N

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Foreword

DECISIVE victories in the third year of the Global War offer surety for the final triumph of the United Nations. Inauguration of the Second Front on the Cherbourg Peninsula and the French Riviera, was followed by skilful operations which liberated France, Belgium, Luxembourg and a part of Holland, and put Allied divisions, preponderantly American, within the German homeland; enabled Russia to cleanse her soil of the Nazi hordes and to drive into Prussia; compelled all the Hitler satellites save Hungary, to surrender and to turn on their discarded Master; witnessed our steady advance to the Po Valley in Italy, and resulted in German expulsion from Albania and Greece by British and Patriot forces. In the Southwestern Pacific, Americans and Australians blasted along the coast of New Guinea and across the sea to Leyte, which is serving as the springboard for our operations that will free the Filipino people. In that western ocean of vast distances, amphibious operations effected the capture of Micronesian Islands. Guam again was brought under the American Flag, and Islands of the Mariana, Caroline and other groups were occupied or by-passed, and the garrisons of the latter without prospect of help, are, to use a Navy expression, withering on the vine. In that theatre also, were fought epochal naval and air engagements, which sapped the strength of the Japanese Navy and air power; and our submarines and planes sharply reduced their cargo tonnage. On industrial plants and military installations of the home islands of this foe, our bombs fell with devastating violence, and they were a mere ripple of the flood to come. Only China continues a problem, with Japanese Armies seizing strategic areas and depriving us of airfields. Looking over the map of the world on the eve of this fourth year of the war, we may note with satisfaction that the steel encirclement of Germany which her people always dreaded, is accomplished, and that established as we are in the oriental Pacific, we will be able more effectively to batter Japan and increasingly to deny to her the raw materials her people must have in order to live, and to manufacture the weapons her war needs require.

The continuous successes of the past year

are attributable to many causes. There was the tenacity of purpose which has animated each of the democratic peoples. There were the coordination of operations—the decision for which was reached by President Roosevelt, Prime Minister Churchill and Marshal Stalin and their staffs, at the historic Teheran and Cairo conferences. There were the industrial genius and production of America, which enabled the supply of our own enormous needs and much of those of our Allies, and there were the marvelous inventions and devices which science added to the common destructive capacity. There were the expert planning, the preliminary training, transport and supply for, and execution of, operations thousands of miles apart, and their meshing with each other so as to insure the effect of a single blow. Above all, there were the heroism and gallantry of the fighting men, who, on the ground in mud and cold or heat, in the air on hazardous flights, and on and under the sea, grimly discharged their dangerous tasks. By astute diplomacy, and disregarding ideology, we maintained the solidarity of the United Nations, and induced neutrals to a more friendly attitude toward our cause. Financially, we aided our friends, and economically we gave succor to them and to the liberated, and charitably we fed the defeated. The whole picture presents a scene of Allied military unity, of crumbling enemies, of mercy to the vanquished, and of the dawn breaking upon humanity again at peace.

Become "the greatest military, naval and air power in the world within three or four years," as Prime Minister Churchill so proclaimed on Thanksgiving Day, the "marvelous Arsenal of Democracy" which the President forecasted, and possessing incomparable arms and superb leadership, we look forward confidently to the future. When we shall reach Berlin and Tokyo, which surely we will, and there dictate terms to the vanquished, we will begin to furl the battle flags, and to start again upon the path of peace. But let us always remember that peace depends upon force, and that a strong United States not only will be safe, but will be a warning of the peril of aggression which no future Hitler or Tojo will dare to disregard.

JOHN CALLAN O'LAUGHLIN, *Publisher.*



U. S. Navy Photo



THE Commander in Chief of the Army and Navy visits Pearl Harbor in July for a conference with the leaders in that vast theater. Seated are General Douglas MacArthur, USA, Supreme Allied Commander in the Southwest Pacific; President Roosevelt; Admiral William D. Leahy, USN-Ret., Chief of Staff to the Commander in Chief of the Army and Navy; and, pointing to map, Admiral Chester W. Nimitz, USN, Commander in Chief United States Pacific Fleet and Pacific Ocean Areas.

"These discussions," the President said, "developed complete accord both in the understanding of the problem that confronts us and in the opinion as to the best methods for its solution."



THE WHITE HOUSE
WASHINGTON

November 14, 1944

My dear Colonel O'Laughlin:

This has been a year of outstanding accomplishment for the armed forces of the United States. During the last year our army, navy and air forces have taken part in twenty-seven different D-Days — each one a triumphant success.

We are now waging major offensive operations 13,000 miles apart from each other.

Although we were obliged to take the defensive when the attack was first made upon us, it was our strategy from the beginning to move out to strike the enemy as soon as our power and resources were fully mobilized — to strike him on his own home grounds at points of our own choosing.

That was the strategy from the beginning — that is the strategy today.

As defensive fighters and as fighters on the offensive, the American soldiers and sailors and air men have proven that they can slug it out victoriously with any armed forces our enemies may send against them.

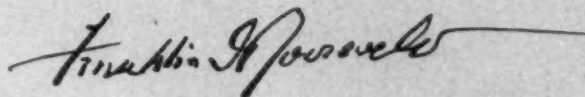
But in the midst of victorious battles, we must never forget that the war is not yet won either in Europe or in Asia.

The enemy in Europe is fighting on his own soil. The enemy in the Pacific is beginning to feel our attack in his own home waters and islands. With shortened supply lines, the Nazis and Japs are fighting with fanatic resistance.

Ultimate victory is inevitable, but in the meantime the American people must not relax for a moment their inflexible determination. The weapons of war which America has turned out and which have given us superiority on land, on the sea, and in the air must continue to flow if we are to attain that victory. Everybody on a war job must stick to that job.

The effective cooperation among the United Nations which has done so much to insure final victory must continue after the war for building a structure of peace. All over the world peace-loving men and women are determined that this cannot occur again. Everything that we do must be dedicated to that objective.

Very sincerely yours,



Colonel John Callan O'Laughlin,
Army and Navy Journal,
1711 Connecticut Avenue,
Washington, D. C.

The Third Year of the War

by General George C. Marshall, USA

Chief of Staff, United States Army

COMMENTS on the Allied situation to be made in the early fall for publication in December, present an embarrassing problem of predictions in a war which at the time of this writing is moving with lightning rapidity from one Allied success to another. Before this statement is published, hostilities might have terminated in the European theater. Across the Pacific the net should have drawn much closer around the Japanese perimeter, with their homeland under continuous bombardment from the air. More might be said regarding the march of events in the Pacific but normal precautions for secrecy regarding prospective operations forbid.

The third year of the war for the United States has been notable for the final deployment overseas of the Army forces on the ground, in the air, and for supply. One of the most significant factors in our successes on the European fields of battle has been the ability of the Army Service Forces at home and abroad to supply the huge forces involved, under most complicated conditions and during extremely rapid movements in the field. Even more significant has been the demonstration of high efficiency displayed by Corps and Army commands and their staffs and special troops in handling themselves and previously untried divisions in a grand assault on an experienced enemy in a dazzling display of speed and power. The fact that most of the Army Corps and Divisions in the great breakthrough carried out by General Patton's Third Army had had no previous battle experience whatever was a demonstration of efficiency for which the enemy was totally unprepared. The great training maneuvers which in part covered most of the State of Louisiana and far reaches of the desert country in southeastern California, were amply justified by the conspicuous leadership and staff work displayed in the higher echelons of our Armies in France and the facility with which divisions handled themselves in rapid maneuvers.

In the last war Corps commands had to be organized virtually on the battlefield; in this war the victory was speeded up and the lives of our men were conserved by the most comprehensive training procedure that could be developed in this country.

The Air component of the Army became heavily en-

gaged with the enemy before the ground troops could be deployed in force. It therefore acquired the veteran touch early in the third year of the war. For a long time the great burden of our efforts was borne by the heavy bombers who relentlessly carried the battle to the enemy despite heavy losses. Later on with the

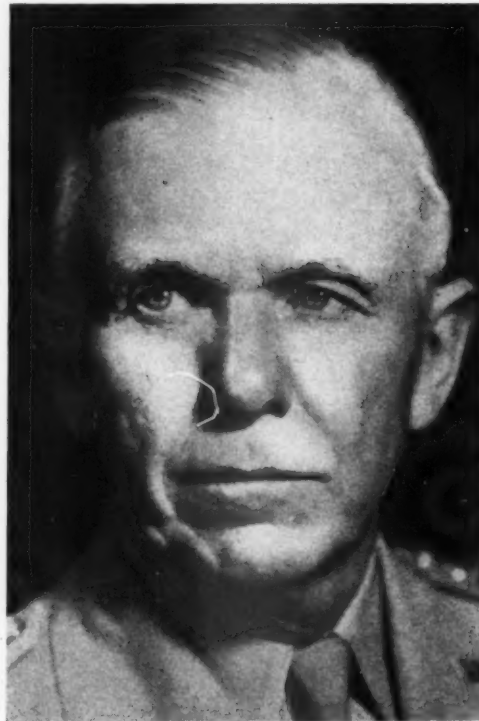
provision of fuel for long flights, the fighter planes took over much of the burden of the heavy bombers and have with great gallantry administered a just but terrible retribution on the enemy in Europe and in the Pacific for those days when we endured the bitter cost of unpreparedness.

In achieving the successes in our battles in the European theater another factor has been of the utmost importance. The flow of carefully trained replacements and of materiel has been so maintained that divisional losses were replaced almost overnight and all our units continued in action with full ranks, stimulated by the presence of new men intent on winning the approval of their veteran brothers in arms. The same principle was applied to our vast Air Forces, most of the planes being provided with two crews so that the materiel could be kept constantly in action and yet the operators given at least brief periods for

rest and recuperation. Probably nothing has been more demoralizing to the Germans than this flood of sustained power always on the increase and constantly hammering at their dwindling resources in men and equipment.

In the Pacific the ground fighting has been hard and bitter, our men exposed to all the hazards and hardships of tropical jungles, while opposed to savage barbarians. The march of events in this theater has been greatly accelerated but in these operations swiftness of movement has depended more on sea and air power than has been the case in Europe.

Wars are the great tragedies of the human race and every conceivable effort should be made to avoid their prolongation by a single week. Yet it probably has been a good thing to have the great military power of the United States fully demonstrated on the battlefield, so demonstrated that the world may know for the future that this democracy can and will generate a military force sufficient to overwhelm prospective tyrants of the years to come.



General Marshall

The Navy Team in 1944

by Admiral Ernest J. King, USN

Commander in Chief, United States Fleet and Chief of Naval Operations

AT this point in 1944 we can look back with satisfaction on the progress of the war to date, and with just pride in the part played therein by all services comprising the Navy team—the Marine Corps, Coast Guard, and the Navy.

Basically, our Navy's ability to conduct modern warfare on the successful scale it is now doing is due to the effort and skill of the personnel, scientific research, and the development of sound methods over the years. Historically, any new method of fighting, whether with or without new weapons, has been productive of countermeasures which successfully reduce its effectiveness. This may be expected to continue. In so far as new methods and weapons are concerned, we are in a position to set the pace.

The Navy, perhaps more than any other of the services, is dependent on a high quality of engineering skill and practice. Our modern ships and planes, the establishments which design and build them, and the equipment with which they are operated and armed, could not exist without the engineer and the technical expert. We are fortunate in having in the United States in an unequalled degree the necessary engineering brains, educational facilities and technical knowledge.

Each technician on board ship must learn not only how to operate his own particular part of its machinery; he must also learn how to operate it so that it will contribute most to the efficiency of that ship as a unit. There is no better example of the necessity of teamwork than a modern man-of-war. In a submarine, for instance, every officer and every man in the crew, has a job which directly affects the operation of the ship, her hitting power, and her survival, and each depends on the other to act correctly at the right time.

Once a unit is trained to operate efficiently by itself, it must next be taught to effectively coordinate its efforts with other ships and planes so that all may function as parts of a smooth running force. That is, each unit must learn to play its position on the team, must be equipped, coached, drilled, and taught to fight and to win.

Mobility is a prime military requisite. Surface ships, submarines, and our air forces possess this quality to a high degree. With the increased tempo of operations,

therefore, the question of timing has been, and is all important. Coordinated striking power, augmented by proper timing, is the best formula for success in warfare. Team work and timing have been successfully used in past operations; we shall count on them with confidence for even more successful operations, yet to come.

In the European theater, Naval forces have taken a major part in driving the enemy out of Africa, and have shared to a like degree in the occupation of Sicily and in the invasion of Italy and France. The Russian army, turning against the German in an irresistible offensive, has driven the enemy back to the borders of Germany itself. The liberation of France is in sight. The German submarine fleet has been reduced from a menace to a minor and constantly diminishing problem. The forces of liberty encircling Germany are being drawn closer and closer to the target Berlin.

In the Pacific theater, the Japanese, after their attack on Pearl Harbor, advanced with impressive speed and power through the Philippines and the Netherlands East Indies into the Solomon Islands and New Guinea. These Japanese advances were, how-

ever, checked and our successes in the Solomons, in the Central Pacific, and in the Northern Pacific, are now matters of record. Our outposts, which three years ago were on a line running from Dutch Harbor in the Aleutians to Midway, thence to Fiji, Samoa, and Australia, now begin at Attu, on the tip of the Aleutians and extend south to recently captured Saipan and Guam, through the Marshalls to New Guinea and Australia. This line, we are determined, shall be moved farther west and northward to encompass the Islands of Japan.

The war against Japan has gone increasingly well of late. Our submarines and planes are cutting deeper and deeper into the vital Japanese shipping, and our fleets move in the Central Pacific unchallenged. Japanese capacity to maintain the war at sea and in her advanced areas has progressively suffered, due to the loss of vital shipping. These circumstances in the Pacific Theater present a situation which must be as dark and threatening to Japan as it is full of promise to us.

Fortified with unity, power, and experience, and imbued with confidence, the Navy team is determined to travel far and fast to victory.



Admiral King

1944 — A Golden Year

by the Honorable James Forrestal

Secretary of the Navy

THE United States Navy has just completed a golden year.

During America's third year of war, our naval forces have successfully participated in twenty-four major amphibious operations. In the Pacific we have successfully sealed off two island groups, the Bismarcks and the Solomons. We have invaded and hold control of major portions of seven others—the Gilberts, Marshalls, Admiralties, Marianas, Carolines, Halmaheras and the Palaus. Finally our forces landed in the largest group of all to bring the American flag once more to the Philippines—and the days which followed saw a naval engagement which may well prove to have been not only the greatest sea battle of this war but one of the decisive battles in all history.

On the other side of the world, our operations have been no less successful. There, in conjunction with our allies, we have made three landings—Anzio; the vast amphibious operation off the coast of Normandy; and the landing on the southern coast of France, which was the coup de grace of that campaign. In all of these our ships, our aircraft and more especially, our new amphibious forces have carried on the Navy's greatest tradition—the tradition of victory.

None of these victories overseas would, of course, have been possible without equally important victories at home. Nineteen forty-three saw all records broken in the tonnage of combatant ships added to our fleets. Now it is clear that 1944 will smash even that record: more than 1,450,000 tons of new fighting ships will have been produced by the end of December. Already we have on hand a fleet of 1,155 combatant vessels, backed up by 50,000 additional craft, including a huge number of landing craft. This record would not have been possible if American workers and American industry had not shown the same devotion to duty as our men afloat and overseas.

At the same time, the expansion in our ships has been matched by the expansion of our manpower. Never before have so many Americans worn Navy blue. In the past year men have been inducted into the Service at the rate of 2,800 a day, enough to man an entire pre-war Navy every two months. Today there are more than 3,100,000 persons in the Navy, more than 475,000 in the Marines, and more than 169,000 in the

Coast Guard.

Japan is retreating to the inner citadel of her defenses; the home islands, Formosa, North China and Manchuria and the waters between—the Sea of Japan, the Yellow Sea and the East China Sea. Penetration of this inner chain will require long and careful

preparation if it is to be carried out successfully. We shall need every bit of the favorable margin of naval strength which our victories have won for us. Although Japan will be cut off from her conquests to the south, she has feverishly expanded her industrial machine at home and on the adjacent mainland so that today many of her necessities can be drawn from this area. For the balance she has accumulated large stockpiles. While they will eventually be exhausted, we cannot count upon economic pressure to bring about the collapse of Japanese resistance.

Although we have conquered the physical problems of shortages in materials, machines, and skilled manpower we are now faced with a new production problem, a psychological one. Each success makes it more difficult for the

home front to keep its mind on the job still to be done. Whether we shall successfully master this new hazard is still to be determined. Upon the outcome depends whether we have ahead of us a short war or a long one. It will show whether we, as a nation, have attained a maturity commensurate with our wealth and power.

Today we can see developing a renewed appreciation of sea power—military power exerted across the oceans of the world. This concept will be of tremendous significance to our country in the years to come, both in our own defense and in the part we must play as a member of whatever world organization is set up to preserve the peace. Twenty-four amphibious landings in one year, and each one a success! That is, in some ways, a fantastic record because it has been axiomatic that an amphibious landing against entrenched opposition is one of the most difficult of all naval operations. This axiom was based upon the experience of many years—experience checkered with tragic records of amphibious operations which ended in confusion and failure.

Our successes have been due to many factors. In conjunction with the Army we have developed the uni-

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Secretary Forrestal

The Number One Job

by the Honorable Robert P. Patterson

Under Secretary of War

WE may look back upon this third year of the war with a measure of justifiable pride and in profound gratitude. On the battlefields and at home it has been a year of fruition. America's forces on the ground, in the air and on the sea have with magnificent courage and relentless determination pushed each of our enemies further and further back into his evil nest. American men and women at home have toiled day and night to assure the supplies without which our victories would not have been possible. Thus far our planning, our production and our achievements have been worthy of the task which the highest duty has thrust upon us. We have a right to expect, if we do not falter, that the final victory will be ours.

But the war is not finished. It is not on its last legs. We still have the task of defeating Germany, and then we have the task of defeating Japan. Those nations will be defeated, there is no doubt about that; but many American boys will lay down their lives before the work is finished. Every ounce of our strength will be necessary to keep production going to meet the needs at the front and at home. That is the sober truth, and we should face it. Winning the war is still the number one job.

I am pressing home that truth, because the belief that we can coast to victory seems to have taken root in many places. It is based, in part, on the great victories we have won this year—victories in Northern France, in Southern France, in Italy, in the Far East. There is no doubt about the greatness of those victories, no doubt about their decisive character. But neither is there any doubt that our enemies, two powerful nations that years ago adopted war as their leading line of business, are still in the field—resolute and in strength—determined to fight it out, though they know they have no chance to win.

The belief that the war is a thing of the past comes also from grossly exaggerated stories as to cutbacks in the war production program and from the vast amount of postwar planning that is being carried on. Of course, we should plan for industrial reconversion and demobilization. We in the War Department have carried on that planning for months. Of course, we

should plan for world security, at Dumbarton Oaks and elsewhere, so that the peace we are fighting for will be preserved. We would be derelict if we did not carry on that planning now. The trouble is not with the postwar planning. It is with the implication that springs so readily from the planning, the idea that the planning can only mean that the war is in the bag and that here at home we had better relax a little and concern ourselves with the prospects of brighter days ahead. But the postwar plans are utterly worthless unless we first win the war. And the war is a present reality with the six million young Americans who are fighting it out overseas.

There is the infantry soldier up in front. He is still there, G. I. Joe, taking the rain and the cold in a foxhole, keeping down his hunger with cold C rations. There is no glamour in his life. He is provided with weapons that give him great firepower, weapons that he loves; but we should not overlook the fact that the German firepower is great, too, and it is aimed directly at him. The casualty figures tell the risks he runs. Ninety per cent of the casualties in the ground forces fall on the infantry. When you know there is a man 100 yards ahead who is determined to kill you if he can,

there is no chance that you will get absent-minded. That infantry soldier has the courage that carries him forward, always forward; and he has a trained and toughened skill that gives him firm confidence. He is too self-reliant to ask for sympathy. But he does not want to be forgotten.

That infantry soldier gets strong support from the artillery, the tanks, the engineers and the supply branches, eager and tireless in helping him to the limit. The fighting is still going full-blast for them, too. In fact, it is just over the next hill.

The war in Europe is still on for the Air Forces. Take the familiar sentence from the daily communique, "so many of our heavy bombers are missing." The communique for October 15 is a fair sample.

"Yesterday strong forces of heavy bombers escorted by fighters attacked airplane factories, oil refineries and rail yards in Germany, Austria and Czechoslovakia. From these attacks, 21 of our heavy bombers

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Under Secretary Patterson

The Department of State in War

by the Honorable Edward R. Stettinius, jr.

Secretary of State

THE work of the Department of State during these turbulent years is concerned not only with the conduct of foreign affairs in a world at war but also with preparations for meeting the difficult problems which the United States is bound to face when the fighting is over.

Our diplomacy as an instrument of national defense and as an agency for strengthening the war effort was discussed by Secretary Hull in the December 1943 issue of the *ARMY AND NAVY JOURNAL*. Here it can well be repeated that our efforts are directed to the complete defeat of the enemy nations at the earliest possible moment. We are continuously and intensively assisting our armed forces to achieve victory. In Washington, the Department of State is in constant consultation with Army and Navy officers on many political and economic problems directly related to the prosecution of the war. There is an interchange of information between the Department of State and the War and Navy Departments on a twenty-four hour basis. In the field, officers of the Department serve as political advisers to commanding generals, and Foreign Service officers move into liberated areas immediately behind the victorious allied armies.

To facilitate this work and to prepare adequately for the post-war world we set up a year ago two principal committees composed of high officers of the Department. The first is the Policy Committee, which assists the Secretary in the consideration of major questions of foreign policy; the second is the Committee on Postwar Programs, which assists the Secretary in the formulation of postwar foreign policies and the execution of these policies by means of appropriate international arrangements. The Department of State has also been strengthened by the addition of new personnel in its several offices and divisions and by the establishment of new units. Plans are under way for further strengthening the Department and the Foreign Service to meet increasing responsibilities. To this end we hope to draw heavily upon those who are now in our military forces. They should participate fully in the work of laying the foundations for a lasting peace.

The Department's preparations for meeting post-

war problems began immediately after the outbreak of war in 1939. After Pearl Harbor they were intensified and expanded. In these preparations we have come to grips with the problem of establishing an international organization for the maintenance of peace and security; with the many and difficult prob-

lems connected with the coming peace settlement; and with long-range economic and social problems. All of this work has been carried forward from the first on a strictly nonpartisan basis. In it we have had the collaboration of Members of Congress, representatives of the Army and Navy and other interested agencies of the Government, and many national leaders. During the past few years, representatives of these various groups have taken part with members of the Department in hundreds of meetings, held to consider international questions of the future.

We have already participated in many international conferences held to deal with economic and social problems arising from the war and its aftermath and with long-range problems in these fields. The United Nations Conference on Food and Agriculture

in May 1943, the Conference on Relief and Rehabilitation in November 1943, the Financial and Monetary Conference at Bretton Woods in July 1944, and the International Conference on Civil Aviation now being held at Chicago—these and many others dealing with labor, shipping, petroleum, and other matters of international concern indicate the wide range of complicated questions with which we are confronted.

The establishing of an international peace and security organization has been the subject of discussion at Moscow and at Washington. The Moscow Conference in the autumn of 1943 marked the beginning of international progress in this field. That Conference emphasized the unity of the four nations which are carrying the principal burden of the war against the Axis. The Four Nation Declaration signed on 30 October 1943, contained the assurance that the united action of these nations, already pledged for the prosecution of the war against their respective enemies, would be continued for the organization and maintenance of peace and security. In this Declaration the

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Secretary Stettinius

Financing the War

by the Honorable Henry Morgenthau, Jr.

Secretary of the Treasury

WARS, now as always, are won on battlefields. But in modern war the Home Front is intimately involved. Economic stability at home is an absolute requisite of victory. Without it, it is impossible to maintain the vast and complex flow of supplies to the men on the fighting lines.

The problem which has confronted us at home has been how to maintain economic stability while half of the country's total production was being sent to war. We knew this meant that if price stability was to be maintained then approximately half of the purchasing power of the country must be immobilized or transferred from the hands of individuals, where it could be used only to bid up prices, to the hands of the Government, where it would be used to purchase the means to victory. We knew, too, that on the success with which this task was accomplished would depend the kind of economy our boys would reenter when they returned from overseas—whether it would be an economy wrecked by inflation, or a vigorous economy in which they could take their places with confidence.

Two buttresses have been used to support the structure of economic stability during the war. One is the buttress of direct controls, including rationing, price controls, and priorities. The other is that of a fiscal policy which siphoned off the excess buying power by taxing and borrowing from the general public. The maintenance of the borrowing part of this buttress was, to a great extent, the responsibility of the Treasury.

There are, of course, economic limits to the proportion of the total war cost which can be met from current taxation. Our total tax receipts have increased eightfold in the past four years, but there still has remained a large Federal deficit. In order to finance this deficit, it has been necessary to increase the public debt by about \$150 billions since Pearl Harbor.

In its borrowing operations, the Treasury has been largely guided by four underlying principles: (1) that the necessary funds should be raised in such a manner as to minimize the danger of inflation, (2) that small investors who purchased war bonds should be protected from market risks, (3) that the liquidity of the Nation's financial institutions should be maintained and increased, so as to place them in a strong position to confront the problems of the postwar period, and (4) that the interest rates on the war debt should be kept

at a reasonable level.

To minimize the danger of inflation, bond sales programs were directed particularly toward individuals. The securities offered were designed to meet the needs of such investors. Periodic bond drives have been organized, with goals announced for each class of in-

vestor, and with specified restrictions on participation by bank. The payroll savings plan for the continuous purchase of Series E bonds has been promoted. Bonds sold in this manner absorbed consumer purchasing power directly at its source and consequently had a maximum impact upon consumer spending.

The second objective involved the protection of the interests of the small investor. The Treasury has considered itself the trustee for the inexperienced investor who purchases Government securities primarily to help his country in time of stress and places his faith in his Government that the securities he purchases are sound investments

and designed with a view to his own requirements.

Series E bonds were designed especially to meet this responsibility. They are non-negotiable and redeemable on demand, thus guaranteeing their holders against fluctuations in market value in case the proceeds are needed prior to maturity of the bonds. The yield to maturity of E bonds is 2.9 percent—the highest obtainable on any United States Government security. An annual limit is placed upon purchases by any one individual. These bonds have already been purchased by some 85 million separate investors. The \$23 billions of their holdings to date constitute a profitable and highly liquid investment. For the postwar period, these holdings will provide a valuable backlog of consumer purchasing power.

Securities were designed likewise to contribute to liquidity elsewhere in the economic structure, in accordance with our third objective. United States securities made available to banks have been concentrated in maturities of ten years or less. As a result, the banking system is in a more liquid condition than ever before. Business concerns likewise have been afforded the opportunity to purchase securities of short maturities. The funds so invested will thus be freely available to these concerns in the immediate postwar period.

The fourth important element in our fiscal program has been the maintenance of consistently low interest

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Secretary Morgenthau

The Department of Justice and the Post-War

by the Honorable Francis Biddle

Attorney General of the United States

AS the third anniversary of America's entry into the war finds us with victory over the Nazis almost within our grasp, the Department of Justice is now free to concentrate more of its attention on the innumerable problems which peace will bring.

The Department has fulfilled, and fulfilled most successfully, its wartime functions of preventing espionage and sabotage, controlling alien enemies, maintaining civil liberties, and prosecuting those who attempted to use the war as a cover for defrauding the Government. These activities, and the many concomitant ones which fell within the jurisdiction of the Department, will of course be continued until the last of our enemies has surrendered unconditionally. But, with half the war in this final, whirlwind stage, we in the Department of Justice are determined to be prepared at a moment's notice to give major consideration to such vital questions as the control of cartels and monopolies.

At the beginning of this war, we learned to our sorrow what stifling controls international cartels had inflicted on our economy. We learned that the period between the two world wars was, in the eyes of the great German monopolistic firms, only an armistice in which they waged unremitting economic war against us, unwittingly abetted by American companies who entered into commercial agreements with them. Acting as agents for the Reich itself, these German companies hoped to cripple American production, learn American production secrets, and to use the cartel agreements as stepping-stones for espionage and the establishment of propaganda centers. Unfortunately these aims met with considerable success, and might have met with more had it not been for the vigilance of the Department of Justice in bringing to light the hidden dangers which underlay apparently innocent trade agreements.

We have more than 40 cases involving these cartels now in the courts. We have broken up a number of them involving critical materials, and we will continue our investigations to cover all important aspects of our economy in which foreign commitments enter into the picture. Knowing the German mentality, we can rest assured that after the war the large monopolistic firms will proclaim from the housetops that the war was not of their choosing, and that they were only

blameless commercial enterprises. I trust, however, that the American people will not forget the despicable activities in which these firms were engaged. After the last war we did forget the relationship between the German Reich and German industry, and that was a nearly fatal error which must not happen

again. We must remember not only that these can be used against us in a military way, but also that they are the executioners of free enterprise and economic liberalism. To my way of thinking, no single post-war activity of the Department of Justice is more important than the extirpation of these vicious pacts.

In addition to waging war on international monopoly, the Department is prepared to use the Antitrust Laws to the fullest possible extent in combating monopolies here at home. By our definition, capitalism means equal opportunity and the right to compete in the market place. On the other hand, monopoly means the stifling of true capitalism, for it means carefully restricted production, with accompanying evils of spiraling prices, increased unemploy-

ment, and curtailed consumption. It is far from improbable that the depression which would result from a period of uncontrolled monopoly policy would impair the whole future of free enterprise in this country.

That is of course the dark side of the picture. The bright side is that the Antitrust Laws were designed to prevent such a cataclysm. As the agency responsible for the enforcement of these laws, the Department, during the difficult period of readjustment ahead, intends to use them as a bulwark against the forces of special privilege.

Apart from these broad functions, the Department will be faced with many specific post-war problems. Most important, perhaps, is the possibility of a general increase in crime, due in part to the social readjustment of veterans, which may develop if the change-over from military to civilian economy produces a temporary period of depression and unemployment.

The legal problems of reconversion, maritime litigation, settlement of war contracts, and the continued investigation of frauds perpetrated against the Government during wartime, will all require the closest attention of the Department of Justice. In addition,

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Attorney General Biddle

Agriculture Goes to War

by the Honorable Claude R. Wickard

Secretary of Agriculture

OF all the production miracles of this war, perhaps none is more noteworthy than the achievements of the farmers of the United States. If these farmers had been asked five years ago if they could do the job that has been accomplished since the advent of war, I am sure the answer would have been negative. It didn't seem possible then that the rural people of America would be able to produce so much more food and fiber with less labor, machinery, and other production facilities. But they have done it. Food production last year was one-third above the average for the five pre-war years, 1935-39, and promises to be even higher this year.

This record output, coupled with the stupendous achievements of previous years, has enabled us to feed and clothe our armed forces better than any other fighters the world has ever known; it has boosted civilian diets during the last three years to a level higher than any comparable period in history; and, at the same time, has provided large shipments of food for our allies.

These achievements are traceable to a number of factors. Among them are: harder work and longer hours by farm families, generally favorable weather, higher yields resulting from better farming methods in recent years, and assistance to farmers through the programs of the Department of Agriculture and the War Food Administration. These programs have made credit available to farmers to aid them in increasing their war production, provided special aid to small farmers, encouraged soil and water conservation as a means of stepping up production quickly and efficiently, operated to recruit, transport, and place farm labor, and the research programs of the Department and the State agricultural experiment stations have figured prominently in the achievement of greater farm production.

The importance of research to agriculture is often minimized or overlooked entirely. As a matter of fact, if it were not for the technological discoveries of the scientists, we would not now be producing almost one-half more than we did in the last war with 4 million fewer farmers to do the work and very little more acreage in crops.

Agricultural research encompasses a broad field, ranging all the way from crops and livestock to ma-

chinery, fertilizers, and methods of handling and processing agricultural products. Since the establishment of the U. S. Department of Agriculture, research has been one of its primary functions. Its research facilities at Beltsville, Maryland, and at the four regional laboratories, plus the Forest Products Laboratory at Madison, Wisconsin, include some of the world's finest equipment, staffed by highly-trained men and women.

Some idea of the contribution agricultural scientists have made toward utilizing the products of the farm in the war effort may be gained from the following examples:

The Department's California Regional Laboratory has done outstanding work on the dehydration of foods, particularly vegetables. This research supplied the technological foundation for an industry which is turning out large quantities of various dehydrated foods for the armed forces and for shipment to our allies. The New Orleans Laboratory has developed a new type of all-cotton gauze bandage that fits and clings better than ordinary gauze and which allows greater freedom of movement of bandaged joints. One of the first war-time accomplishments to come

out of the Philadelphia Laboratory was the development of apple syrup, from sound but off-grade apples, which is a good substitute for glycerine, needed in making explosives and now employed in many other commercial ways. Researchers in the Peoria, Illinois, Laboratory increased the yield of the remarkable new drug, penicillin, from a laboratory curiosity to the point where it was feasible for industry to start the production on a commercial scale. Indications are that the production of penicillin in the United States and Canada by the end of this year will be sufficient to treat about 250,000 serious cases of infection a month.

The Forest Products Laboratory at Madison, Wisconsin, is uncovering from wood many new and amazing products which are proving valuable in the war and hold tremendous promise for the postwar period.

Meantime, the farmer goes ahead with his production job, turning out the raw materials that are so vital to the Nation both in time of war and peace.



Secretary Wickard

Department of the Interior in the War

by the Honorable Harold L. Ickes

Secretary of the Interior

BECAUSE of the total and global nature of this war, post-bellum discussions on who won it are likely to be about as futile as those about who killed cock robin.

Everybody has been in this fight.

Who can say that the contribution of anybody, be he soldier or civilian, farmer or mechanic, miner or scientist, was not essential in gaining victory? I do not mean to imply that everyone's contribution was of equal value. To the armed forces, of course, will go the major credit for bringing the Nazis and the Japs to their knees. No one will begrudge them their full measure of glory.

I do believe, however, that history will accord some measure of credit to the patriotic men and women of the Department of the Interior, for the not too humble part they played in furnishing the armed forces with what they had to have to do their job. For nearly a century the Department of the Interior has been chief custodian of Uncle Sam's natural resources. And things that come from the ground—food, minerals, hydroelectric power and a thousand-and-one other items—were a first essential in providing the necessities of modern warfare.

The Department was mobilized for war on Pearl Harbor Day. Before nightfall that Sunday, a Department-wide order was written stating:

"All employees and all bureaus of the Department of the Interior hereby are placed on a war emergency basis. Actions upon matters resulting from declarations of war will have precedence over all other duties. . . . Our immediate and primary function is the full mobilization of the Nation's natural resources for war . . ."

Every Departmental activity since then has been tested by that criterion.

It is obviously possible in this limited space only to enumerate a few typical examples of the results of the Department's efforts to marshal the Nation's resources for war.

To manufacture the thousands of fighting planes, tanks, ships and other weapons to punish aggression, for instance, required electric power—lots of it. Hydroelectric generators installed by the Bureau of

Reclamation have increased the pre-Pearl Harbor power production on the Pacific Coast by 400 per cent. Last year they turned out 14,500,000,000 kilowatt hours of electricity, exceeding the combined output of public and private plants in that area at the beginning of the war. Eighty-four per cent of all installed capacity in 11 Western states within that period has been provided by the Bureau of Reclamation.

Take the matter of food. The old saying that armies travel on their stomachs is just as true as ever. The Department's contribution to food production is also notable. The improvement of Federal grazing lands has increased meat production by millions of pounds. Despite the withdrawal of numerous fishing boats for the war, fishery products have been vastly added to. Food production on Federal land irrigated by the Bureau of Reclamation has been considerable too. Last year on 4,000,000 acres of land on 44 irrigation projects in 15 Western states enough beans were produced to furnish yearly bean rations for 30,000,000 people, and enough potatoes for 31,000,000. On these same lands enough alfalfa was produced to feed beef and dairy herds in sufficient quantity to furnish a year's supply of milk for 4,800,000 persons and beef for 5,500,000.



Secretary Ickes

Volumes could be written about this Department's treasure hunt for vital war metals and minerals—things that suddenly became more precious than gold. Before the war, when we were blandly depending upon foreign sources for many of our essential metals and minerals, we never dreamed that one day we would wake up with a start to the realization that in many ways we were a "have not" nation.

But that is what happened. Foreign sources for many vital products suddenly vanished. Tin was one. Manganese was another. There are so many of them that the list reads like an old-fashioned high tariff law: Alunite . . . beryllium . . . boron . . . lithium . . . mica . . . steatitic talc . . . vanadium. Each one extremely scarce, and each just as essential to some war machine or weapon as a man's eye.

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Speeding War Production

by the Honorable Frances Perkins

Secretary of Labor

THE U. S. Department of Labor, which is the Government agency charged by statute with the duty of promoting the welfare of the wage earners, has had many new and difficult duties placed upon it by the demands of the war. The technical services of the Department have proved to be reliable in this emergency and have been relied on by war agencies for facts and for advice in the labor and industrial field.

The estimating of the number of persons needed in manufacturing per dollar of Government contract, a figure needed in planning the war production program, has been made available through the ingenuity and experience of the Bureau of Labor Statistics. Problems of retarding industrial accidents and rate of absenteeism has proved largely possible of solution due to the technical knowledge and services in the Division of Labor Standards.

The question of how to use women with effectiveness and in safety in heavy industries and for skilled production has been worked out by the Women's Bureau, on the basis of long experience.

Specialized inspection to report to various war agencies on problems necessary for their planning and their check-up has been intrusted to the regular inspection staff of the Wage and Hour Division, which ordinarily enforces only the Fair Labor Standards Act.

The new emergency and infant care program for the wives and babies of men in the armed services has been turned over to the Children's Bureau for administration.

Labor and management have cooperated with the Department of Labor in all this work. Both are cooperating in the Department's efforts to increase the efficiency of labor by providing those human adjustments which are so necessary to the highest production. Continued high production levels are necessary in order to shorten the war, and all who have worked in factories and mills and shipyards know that in order to have sustained effort and sustained output, the working conditions have to be conditions which are favorable for human activity and drive.

Unguarded machinery, slippery floors, unprotected stairways and openings make for accidents. Accidents injure people and lay them up for days at a time. Poor ventilation, lack of drinking water, lack of sanitary facilities, and uncomfortable positions at a machine which could be altered by a little thought, unnecessary

reaching, unnecessary stooping—all cause fatigue, which in turn slows down or interrupts production. Failure to provide proper facilities for eating, fresh drinking water and a chance to rest, all contribute to the slowdown of industry, to a high turnover in employment and to preventable absence.

A realistic approach in every individual plant to the solution of these problems tends to remove the causes. When they are relieved the result in increased output is impressive. The cooperation of labor and management in effecting these changes has been so good that it deserves public acknowledgment and thanks.

In the one field of industrial accidents alone, in a test check of 10,000 factories which were visited and given service by the Department of Labor, there showed up on the records a 75% decrease in the lost-time accidents. This means a saving of millions of man-days of working time.

These become matters of vital importance to the war effort because of the effect

on production and it is reassuring that there will continue to be full cooperation by labor, management, and Government in their handling. This spirit of cooperation is one of the great lessons we are learning in this second world war and it should stand us in good stead as a Nation when the fighting ends and there is a return to the normal ways of peacetime.

It is already making for a better and more sympathetic understanding between labor and management, an understanding which should improve in the years to come and bring about in this country a reliance on the process of adjustment rather than on the strike or lockout as a method of settling industrial disputes.



Secretary Perkins

Air Lessons for the Future

by Honorable Robert A. Lovett

Assistant Secretary of War for Air

THE year 1944 has been one of great achievement for the Army Air Forces. During it they attained their goal of becoming the finest and most powerful Air Force in the world, measured by quantity or quality of personnel, equipment or the productive capacity of its supporting industry.

But the pay-off comes from combat. In 1944 we have seen the visual and unmistakable proof of the effects of strategic bombing in the invasion of France virtually unopposed by air; the confirmation of the American doctrine of precision bombing attacks in the destruction of the principal factories of key war industries; the development of a tactical Air-Ground team to a point of perfection which has resulted in offensive operations of devastating effectiveness; and, an enemy cut down in power to resist, through attacks on his supplies and reserves, destruction of essential transportation systems and the creation of "isolation areas."

In the Pacific Area we have seen the recovery of tremendous areas spearheaded by air preparation. In both the East and the West we have seen how the properly coordinated efforts of land, sea and air forces can hasten victory.

If proof were needed of the role an Air Force can play in modern warfare, it is found tersely stated in General Eisenhower's Report of Operations in North France, dated 31 August, in which he says: "Brilliant preparatory work of the (Allied) Air Forces, a belief in the effectiveness of which was the very cornerstone of the original invasion conception, began months ago and reached its highest intensity at the very moment of landing. It is my conviction that except for this aerial preparation, including as a specific mission a long campaign against the transportation system of Northwest Europe, the venture could not have logically been undertaken."

Or, if one prefers the testimony of the enemy, there is the satisfying public admission by the Wehrmacht, through Lt. General Kurt Dittmar, on 22 August, that their problems in Western France were made "doubly difficult under the conditions prevailing where the tremendous air superiority of the enemy is in a position to hamper every movement. One cannot doubt that here lies the basic cause for all our difficulties."

Our military services have learned many lessons in

the test of battle. It seems fair to ask, therefore, whether the American public has likewise learned the lessons which lie so plainly exposed by the war to date. Do we realize fully the time it has taken, even with the production miracles which have been performed, to build our Armed Forces up to a position of

equal strength and finally superiority as compared with the enemy? Are we aware of the fact that next time we may not have a period of grace in which to arm ourselves? Are we taking thought of the future so that we will not again be shamefully defenseless even against second-rate powers? Are we going to slip back into a period of national apathy as we have in the past? Or, have we learned the lesson that love of peace is no substitute for the strength to insure it?

The answer to these questions lies, I think, in a public informed of the facts and educated as to their implications. Much time and thought in the military services have been put on plans for national defense which incorporate current combat experience. The Army Air Forces have recently made public their opinions

and tentative observations. They can be summarized as follows:

1. We believe that the future security of our country depends on our being able and ready to protect ourselves from attack by air. Such attack can and may come without warning and by new or adapted airborne weapons.

2. To protect ourselves we need an Air Force strong, not because of its great size, but because it has the best equipment in the world and adequately trained personnel. Replacement of obsolete aircraft must be a constant process. The Army Air Forces now has prototypes of new aircraft which will make obsolete the majority of types we are presently using.

3. To have an up-to-the-minute Air Force we must have a progressive and alert aircraft industry and air transport system.

4. To have such an industry, war readjustment matters, especially contract termination and surplus disposal, must be handled with great skill and public understanding of the problem.

5. Government-owned aircraft assembly plants and their productive equipment, including basic and gen

(Continued on page 162)



Assistant Secretary Lovett



Thunderbolt fighter outlined against the flash of its own bombs which have just destroyed a Nazi ammunition truck.



B-24 Liberators release their bombs over Tours, France.



A B-25 Mitchell medium bomber flies low after striking again at crumbling Jap installations on Wotke Island.

Air Warfare in 1944

by General Henry H. Arnold, USA

Commanding General, Army Air Forces

IN 1944, the United States Army Air Forces began early to establish precedents and set records for the size and power of its attacks against the enemy; but the records were established only to be shattered and reestablished during the weeks that preceded and followed D-day.

The figures reflect the mounting power of our attack. Nearly 600,000 sorties were flown by the USAAF during the first half of this year as compared to barely more than 100,000 for the similar period of last year. For each ton of bombs dropped on the enemy in the first six months of 1943, more than ten tons were dropped during 1944, and the rounds of ammunition expended on combat missions increased six-fold.

Impressive as the statistical record may be, it can hardly serve as a true picture of our air warfare; it can not give a full indication of the results of our long term bomber offensive against the German war machine. The culmination of nearly two years of strategic bombing of Germany and German occupied territory was reached on 6 June when 20,000 American airmen were over the English Channel on H-hour, when, out of an armada of 4,000 Allied ships crossing the channel, only two destroyers and one LST were lost.

The feeble and totally inadequate effort of the German Luftwaffe on D-day was no accident. When, in January of 1943, the combined Chiefs of Staff established the system of priorities for Allied bombardment, the German aircraft industry was high on the list. With aerial superiority being a prerequisite to any large-scale invasion, the Luftwaffe became the number

one target of our strategic bombardment by January of this year. In that month, German industry could no longer meet the loss of aircraft in the air, on the

ground and along the assembly line. In the following month, during the five clear days from 20 to 25 February, there occurred the series of memorable attacks by the RAF and the USSAFE against aircraft and aircraft component industries. It is estimated that these concentrated attacks, against eleven different centers of production, reduced the scheduled monthly output of German combat aircraft from 1,635 to 800. It is further estimated that their productive ability of 850 single-engined fighters a month was reduced to 350. Naturally, these figures are approximations; when the exact results of those missions have been determined they may be even more impressive. The subsequent weeks did not allow any respite from our attacks; from February through July of this year, nearly 40,000 tons of bombs



General Arnold

were dropped by the USAAF on airplane and airplane component industries in Europe. This was exclusive of the many other strategic targets such as oil installations or transportation centers.

Tactical operations of our air forces have kept pace with the mounting strategic bombardment. As General Bradley has commented, "Teamwork of the air and ground forces in the present offensive is far beyond what we dreamed possible." By D-day, 32 of 38 bridges crossing the Seine between Paris and the sea were knocked out; by the following day, all had been destroyed. These attacks against transportation hubs,

(Continued on page 170)

The Navy's War Production Program

by Honorable Ralph A. Bard

Under Secretary of the Navy

ONE of the most pernicious myths that has arisen to plague me in my new role as Under Secretary of the Navy is the widespread belief that the Navy's war production program is tapering off.

The facts are these:

(1) *The Navy's production program is on the increase.*

(2) *It will continue to increase during the rest of this year and will continue at a high level at least through the first six months of 1945.*

(3) *The capitulation of Germany in the meantime should not materially affect the program.*

(4) *It will end only with the defeat of Japan.*

I have italicized these statements in the hope that emphasis will demolish the myth for the duration. It must be demolished. It is having a mischievous effect upon the Navy's entire war effort.

You will recall that after Pearl Harbor, everybody "got religion." With unprecedented fervor, we rolled up our sleeves and pitched in to produce war materiel. We produced such prodigious quantities that we surprised the whole world—including ourselves.

But now that we see indistinctly on the horizon the assurance of ultimate victory, we are beginning to backslide. Workmen are hunting around for secure peacetime jobs. A few plants are even trying to refuse war work. A few business leaders are becoming restive because they are afraid their competitors will get the jump on them while they are still tied up producing for war. We in the Navy are trying desperately to recruit additional shipyard workers on the West Coast to work on new and damaged ships—and with what success? We find we are losing more workmen than we can recruit.

This is part and parcel of the widespread feeling that the whistles are just waiting to herald the glad tidings that the whole war is over—over in Europe, over in the Pacific, over everywhere, simultaneously and automatically.

Of course, no one with the slightest knowledge of the Japanese expects them to give in just because the Nazis capitulate, or to give in at the same time. We in the Navy certainly do not expect anything of the

sort. We expect the Japanese to fight long, and in lonely desperation for months or even years after the whistles have heralded the end of Nazi resistance in Europe.

The Navy production program has been planned accordingly. The last six months of 1944, Navy produc-

tion will increase approximately 10 percent over the first six months. And the Navy program for the first six months of 1945 will be approximately 3 percent greater than it was the first six months of 1944.

Of course, we may expect some terminations and scattered cutbacks as continuing battle experience dictates. But the Navy's over-all program as now planned will stay on an even keel for at least a year—unless the Japanese should surrender unconditionally in the meantime—and this is most unlikely.

The myth about dwindling Navy production springs in part from a general confusion of the Navy's program and the over-all war production

program. In this article I have been careful to specify the "Navy's production program," to distinguish from the over-all program. The two must not be confused.

The myth also has its foundation in the persisting belief that the Japanese are a bush-league opponent. It is difficult to understand how, after nearly three years of battle with the most treacherous and tenacious foe we have ever faced in our entire history, we continue to belittle the power of their resistance. We have not yet come to grips with their huge land army, which must be met and defeated.

Their power springs, not so much from the excellence of their fighting equipment or the quality of their war leadership, as from the fanaticism that motivates soldiers and civilians alike. Their fanaticism surpasses anything that Nazi Europe has to offer. Their fanaticism is difficult for us to understand, but it is a demonstrated fact nonetheless.

We will make a fatal mistake if we overlook this factor, and glibly assume that the Japanese will succumb according to the same pattern of defeat that we see unfolding today in Nazi Europe. To defeat them

(Continued on page 170)



U. S. Navy Photo
Admiral Chester W. Nimitz, Commander-in-Chief, Pacific Ocean Areas, greets Mr. Bard as he arrives at Pearl Harbor.



U. S. Marines dig in on the beach at Saipan. In the background an amphibious tractor, hit by Jap artillery, burns furiously.



Muddy streams and thick vegetation add to the tough going on Guam.



From the interior of a battered Jap building, the photographer sees equipment and supplies pour ashore on Roi Island, Kwajalein Atoll.

U. S. Marine Corps Photos

Marine Operations—1944

by Lieutenant General A. A. Vandegrift, USMC

Commandant, U. S. Marine Corps

SEVEN times within the first eight months of 1944, Marines attacked hostile islands or atolls. Six of these assaults were contested; two resulted in the bitterest fighting of the Corps.

The landings, protected by the U. S. Navy and usually supported by Army troops, won for this country bases on New Britain; Eniwetok and Kwajalein in the Marshalls; Emirau in the St. Matthias Group; Saipan, Tinian and Guam in the Marianas.

These victories neutralized the last of the great Japanese bases in the South and Central Pacific and brought the Philippines, China's Coast, the Bonin Islands, and even the enemy's homeland within striking distance.

In view of the type operations, the terrain, and the fighting characteristics of the foe, the bitter struggles needed to drive the Japanese out of most places were not unexpected. But for every Marine killed, at least eight, and probably more, Japanese died.

Actually, the Marines' first action in 1944 began Christmas Day, 1943, when the men of the First Division, conquerors of Guadalcanal, landed on both sides of Cape Gloucester, New Britain Island, under the command of Major General William H. Rupertus. Units of the division also occupied Long Island in the Vitia Straits, 80 miles west of Cape Gloucester.

Despite strong counterattacks, the Marines beat off the enemy and had captured the airfields by 30 December. The advance was slow, but by 13 February, the First Division had moved 21 miles east of the Cape, and 11 days later General Douglas MacArthur announced that the Marines had joined Army contingents from Arawe, sealing off the west part of New Britain.

On 6 March, men of the First leapfrogged from Cape Gloucester and landed at Volupai on the western side of Willamuez Peninsula, and by the third day had captured their objective, the Talasea airstrip.

The second of the Marines' 1944 offensives was carried out by the then untried Fourth Division, commanded by Major General Harry Schmidt, and the Army's Seventh Division, veterans of Attu and Kiska. They shared the honor of being the first to invade and conquer pre-World War II Japanese territory, Kwajalein Atoll in the Marshalls.

After a terrific preliminary bombardment, the Marines landed on small islets protecting the entrance to Kwajalein lagoon. There, they set up artillery and began a methodical pounding of the defenders on Roi and Namur, keys to the northern rim of the Atoll.

On the second day of the attack, the Marines, landed on Roi and in four hours had overrun the air-

field, driving the stunned defenders back on Namur, connected to Roi by a concrete causeway, where the bitterest fighting took place.

That action concluded, the Marines began mopping up, while the Army attacked Kwajalein naval base and air strip. By 5 February, the Army assault team had captured Kwajalein Island, and by the 8th, the entire atoll was in American possession.

Eight days later, 16 February, the 22nd Marine Regiment and Army forces, then commanded by Brig. General Thomas E. Watson, USMC, landed on Eniwetok, another key atoll in the Marshalls. Engebi Island, with its 4,000 foot runway, was taken over in

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Lt. Gen. Vandegrift

Progress in Naval Plane Production

by Honorable Artemus L. Gates

Assistant Secretary of the Navy for Air

NEWS dispatches from the Pacific—Saipan, Tinian, Guam, the Philippines—make it obvious that the Navy has been able in 1944 to give its commanders in that area the men and the planes and the ships that they need.

Quite properly, no commander is ever entirely satisfied with his equipment. If he became complacent, the enemy would literally cut his throat, for competition reaches its ultimate in war. The Japanese have certain planes, including three improved carrier types, that are better than we wish they were, but on balance we now have both quantitative and qualitative superiority in the Pacific.

Two years ago in the ARMY AND NAVY JOURNAL's annual, I pointed out the vital need of air superiority in this war. That was a heartbreaking year, with its losses of precious carriers and a plane production creeping upward at a rate that seemed painfully slow. The year 1943 saw great improvement in aircraft production, but there were shortages in materials and plant facilities, and our selection of plane types was partly controlled by what the factories could turn out. By 1944, however, planes were coming off in such numbers that we could bring in new models and make changes. We could afford to be more particular.

In the patrol bomber category, the Navy has continued this year production of both flying boats and land-based planes, and major improvements have been made in both these types. The technical controversy on the merits of flying boats vs. land-based aircraft to one side, it is obvious that boats are necessary where adequate landing fields aren't available. Thus during 1944 the old reliable Catalina was continued in production (by Consolidated and three other plants), as was the Martin Mariner.

Improved versions of the land-based Navy Liberator (PB4Y) and Ventura (PV) were also turned out. The question is sometimes asked why the Navy cannot use similar four-engined and two-engined Army planes instead of these. The Army and Navy do use identical models of some planes; for instance, the Navy gets all of its trainers and most of its transport through the Army. But in this case the Army and Navy missions are not the same. The four-engined Navy Liberator, for instance, is a long-range reconnaissance aircraft,

very heavily armed and capable of defending itself against likely enemy action without fighter protection. The Army Liberator, on the other hand, is a high altitude bomber. The two-engined Army Mitchell (B-25) is also a bomber, whereas the Navy Ventura is used for reconnaissance and anti-submarine control.

Navy planes, whether land-based or carrier-based, operate primarily over water; Army planes operate primarily over land, and thus the characteristics of the planes and the training of personnel must differ.

Those Navy planes which are based on carriers must be strong enough to make landings on moving decks and to stop themselves by catching their hooks in the cables of the arresting gear. They must also be able to withstand the strain of the catapult's giant pull. Carrier aircraft must have more wing-surface and bigger flaps than land planes.

Among the dive-bombers, the Douglas Dauntless (SBD), which many a pilot regards with affection, was replaced by the Helldiver (SB2C), produced by Curtiss and other manufacturers. The Helldiver has greater speed,

longer range, larger bomb capacity, and folding wings.

The Avenger torpedo bomber, developed by Grumman, was produced during 1944 by the Eastern Aircraft Division of General Motors. A more powerful engine was installed during the year, and other substantial improvements were made.

New fighters were put into production during the year, but at this writing are still unknown to the enemy. The bulk of the Navy's fighter production, however, consisted of the Corsair (built by Chance-Vought as the F4U, by Goodyear as the FG, and in the first half by Brewster as the F3A); the Hellcat (Grumman's F6F), and the Wildcat (Eastern Aircraft's FM). The Corsair is used by the Marine shore-based squadrons, and by the British on some of their carriers. The Hellcat is our Navy's standard large carrier fighter, and the Wildcat is used on the CVEs.

In the scout plane classification (scout planes are designed primarily for use aboard battleships and cruisers), production of the S03C at Curtiss Wright (Columbus) was completed and the new SC was started there.

It was possible during 1944 to reduce the number
(Continued on page 166)



Assistant Secretary Gates



A German sub, mortally wounded from the fire of a U. S. Coast Guard cutter as she tried to sneak into the center of a convoy.



LST's, manned by the U. S. Coast Guard and Navy, nose into Cape Gloucester, New Britain, to unload men and material for the war against the Japs.



D-day on the French invasion coast. American soldiers go ashore from Coast Guard landing barges to establish the Normandy beachhead.

The Coast Guard After Three Years of War

by Vice Admiral Russell R. Waesche, USCG

Commandant, United States Coast Guard

THE third year of the war has been characterized by the great extent of offensive operations undertaken by the Allies in all theaters. This has resulted in a general shifting of emphasis on the various elements of all our armed forces, and the essential advance of the war from a partly defensive stage to an overwhelmingly offensive one has been reflected in certain changes within the Coast Guard. For example, there has been a steady increase throughout the past year in the percentage of Coast Guard personnel assigned to sea duty and a commensurate decrease in the number deployed in defensive patrol units along our coasts. By the end of the current year, fully two-thirds of all Coast Guard personnel will be manning patrol frigates, troop transports, landing craft and the regular ships of the Coast Guard. In America's ports, the security of which has been the direct responsibility of the Coast Guard, members of the Voluntary Port Security Force are replacing personnel of the regular establishment and the regular reserve. Moreover, the methods of protection and preventive work which the Service has developed during the past three years have reached a point of efficiency where the utmost protection is afforded by a minimum of personnel.

There has also been during the past year an increased emphasis on certain traditional functions of

the Coast Guard. The Air-Sea Rescue Agency has been established in the Coast Guard to centralize and coordinate the rescue activities of ships and planes. And in the field, rescue activities reached a climax with the invasion of Normandy in June. A fleet of Coast Guard eighty-three footcraft patrolled the English Channel continuously during the invasion and post-invasion operations and rescued over a thousand soldiers and sailors from drowning after their ships had been sunk. Similarly, the Coast Guard, which has always been equally concerned with preventive safety measures as with curative methods, has intensified its campaign to make life and property at sea safe. Through its Division of Marine Inspection, it has prescribed safety measures and developed, tested and approved safety equipment for America's giant merchant fleet. The results of this campaign have been gratifying in a humanitarian sense and of direct logistic significance in a strategic sense, for the loss of life per merchant vessel sunk has dropped about forty per



Vice Adm. Waesche

cent. A third traditional function of the Coast Guard, the installation and maintenance of aids to navigation, has been of revived importance this past year both because of the unparalleled increase in shipping and especially because of the lifting of the major blackout regulations along our coasts. In 1941, when

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ASF—The Third Year of War

by Lieutenant General Brehon Somervell, USA

Commanding General, Army Service Forces

THE third anniversary of the beginning of the war finds our armies on the offensive throughout the world, supply lines extended, demands for men and materiel rising everywhere. In the past year the problems of supply and transportation have been multiplied many times. The invasion of Normandy, and later of Southern France, advances on the Italian peninsula, the extension of our operations to the farthest reaches of the Pacific, the continuing requirements of lend-lease, all these have complicated the servicing of combat troops.

We have put two phases of the war behind us. The first of these is the construction program in the United States. This actually began in 1939 and now has been practically completed. The erection of new production facilities today is negligible. We are building no more camps. Maintenance of existing installations is about all that remains in this important field.

The second phase which we can mark off our books as practically finished is basic troop training. The Army has reached full strength. No more masses of men will be inducted. Training, except in specialized categories, has been completed. Many more troops are overseas than remain in the United States, and a large number of the training camps have been placed in inactive status for future use.

In a third area we still have difficulties to overcome. Production problems still plague us, probably will continue to do so as long as our men are fighting anywhere. The fluidity of war, the changed requirements, battle-field experience . . .



Lt. Gen. Somervell

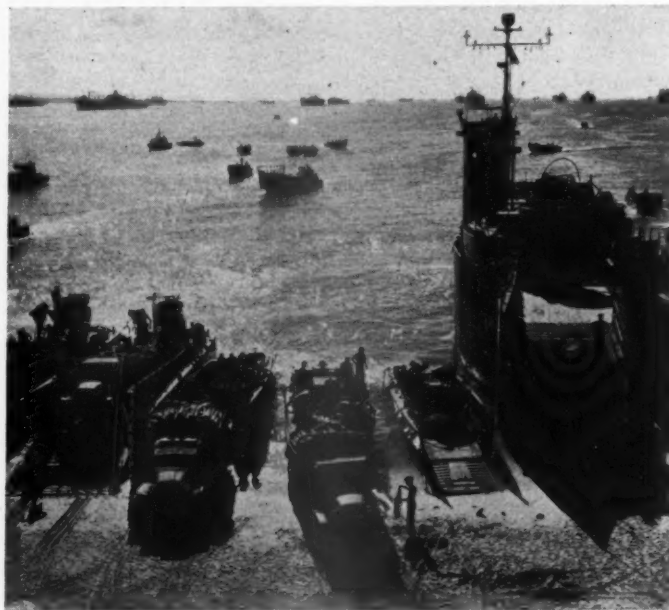
all these result in new, unexpected stresses and dangerous strains. Although the production program as a whole is keeping fairly close to schedule, there remain certain categories in which we are falling short of our goals. We are not yet producing enough heavy artillery or heavy artillery ammunition, enough trucks or tanks, enough cotton duck, enough radar equipment, enough tires. Last summer there was a sudden, unexpected increase in demand for heavy artillery and its ammunition. Although every effort has been made to step up the production of artillery, we still find it impossible to turn out enough tubes and recoil mechanisms to meet the demand.

The fact that in some sectors we expended more than ten times the anticipated amount of heavy artillery ammunition has put a great strain on our powder and shell loading plants. Several of these had been closed, others put on reduced production schedules, before the

new increased need was felt overseas. Naturally it has been difficult to move workers back to these plants,

many of which, for obvious reasons, are located at a distance from large population centers. Manpower shortages also are keenly felt in the forging and casting industries and are primarily responsible for the continued inability of Army Service Forces to meet the requirements of overseas theaters for trucks and tanks. In the electronics field, the shortages are the result of rapid technological advancement, rather than of either manpower or raw material. New discoveries followed one another at such speed there was

(Continued on page 156)



Signal Corps Photo

The ultimate aim of the Army Service Forces is to put the material needed in the hands of the troops when and where they need it. In this photo LSM's, LGM's and LCP's, Los Negros, Admiralty Group, put ashore rations, small arms, ammunition, trucks, and miscellaneous equipment.



Training For Victory

by Lieutenant General Ben Lear, USA

Commanding General, Army Ground Forces

THE year 1944 finds the preponderance of the units trained under Army Ground Forces deployed in combat theaters overseas. Readiness for combat has been accomplished through careful staff planning, the energy of unit commanders of all echelons, the development of high morale, and the aptitude of the American soldier.

The results now being achieved have grown out of a program launched in July 1940 when a General Headquarters was formed, and Lieutenant General (then Brigadier General) Lesley J. McNair, as its Chief of Staff, was made responsible for the intensive training of the field forces. He started with nine Regular Army Divisions, five of which had only recently been activated, two Armored Divisions, and the air force comprised in GHQ Aviation. Out of these, together with eighteen National Guard Divisions and supporting units of old and new types, brought to strength from Selective Service and Replacement Centers, he built up and trained several armies, two of which were thrown against each other in the great GHQ directed maneuvers of 1941. With the aid of a vigorous and compact staff General McNair worked out the system of training directives and tests, enforced by constant inspection, and the plan for building and training new units, the effectiveness of which is now being demonstrated in battle.

War increased the urgency and scale of the task, and in March 1942 General McNair, relieved of the operational responsibilities which had been given GHQ in July 1941, was made Commanding General of the Army Ground Forces, the largest single command the Army has known. Its mission was to com-

plete the training of the ground forces begun under GHQ and expand them to full war strength. To this task he devoted his vigilance, his statesmanship, and a large part of his GHQ staff.



Lt. Gen. Lear

From the original strength under GHQ, the ground forces expanded under AGF until they numbered over three million men. The various components of ground forces now comprise infantry divisions, armored divisions, airborne divisions, non-divisional artillery of all calibers, tank battalions, tank destroyer battalions, combat engineer battalions and various service units such as quartermaster truck companies, hospitals, ordnance maintenance and repair units, chemical warfare battalions, signal corps units and others which provide the combat soldier with the essentials with which to fight.

During this past year Army Ground Forces has devoted its full energy to increasing the effectiveness of training of our fighting men. A review of the accomplishments of 1944 reveals items of particular interest:

Our branch schools, which have been responsible for the most part for producing our junior leaders and specialists, have passed peak production and are at this time being reduced in student capacity to meet current requirements. Since 1941 the Officer Candidate Schools of the several arms have graduated over 120,000 second lieutenants, the majority of whom came from the ranks. The Infantry School graduated its 50,000th second lieutenant in September 1944. Many of these junior officers are now commanding companies, batteries or troops, or even battalions or squadrons. The tremendous problem of selecting and

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Mobilization for War

by Honorable James F. Byrnes

Director of War Mobilization and Reconversion

INDUSTRY, labor and government, working as a team, have done a magnificent job in mobilizing our resources for war.

The crushing blows which our brave fighting men are striking against the enemy so rapidly and so successfully are made possible by the streams of equipment, machines, ammunitions, food and other supplies which the home front keeps flowing to the battle front.

The accomplishments of mobilization for war can best be realized and appreciated when we look at the record and see just how much we have done. Our production job on the home front has been truly amazing. Our overall production is nearly twice as large as it was in the abnormally prosperous peace-time year of 1929.

Our Navy is more than twice as large and as strong as it was before Pearl Harbor. It has more than three times the number of combat ships. It has $2\frac{1}{2}$ times the tonnage. Its fighting strength has been increased at least five fold. It has almost seven times the planes. Its trained personnel has increased nine fold. It is the most powerful, the best trained and best equipped Navy in the World.

Construction of ships has so increased that we can now build twenty million tons a year, which is twice the goal we set after Pearl Harbor.

Just before Pearl Harbor we set a construction goal of 50,000 airplanes. In 1944 we were producing planes at the rate of more than 100,000 per annum and the planes are much larger and better equipped than those included in our original program. To achieve this objective we increased our production of aluminum seven

fold and our production of magnesium 70 fold. In 1944 we were producing tanks at the rate of 75,000 a year, all with greater firing power than 1941 models.

The personnel of the Army has increased more than five fold since Pearl Harbor. The total armed force now numbers more than 11 million. They have been

trained and equipped as no army in the history of warfare.

Despite a fast-moving and hard-fighting Army and Navy we have been successful in preventing any shortage of planes, ships, guns and ammunition.

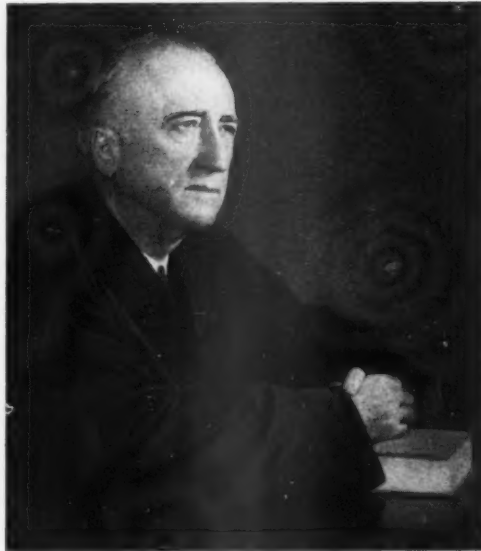
Just as important, we have stepped up our production of food and fibre 21 percent since 1939. In addition to providing our fighting men and those of our Allies with an abundant supply of food, our civilian population is consuming 8 percent more food in 1944 than was consumed before the war.

While we were taking more than 11 million able-bodied workers into the armed forces we have increased the number of workers in industry by more than 7 million. And this

has been done by the free mobilization of labor without resorting to coercive measures.

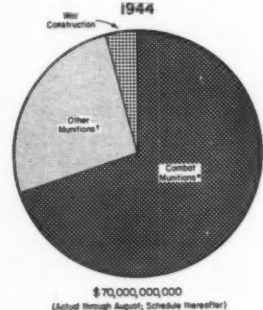
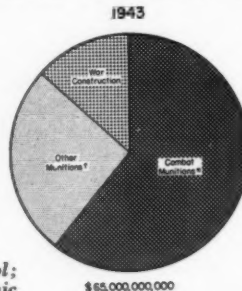
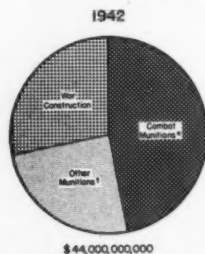
Indeed, the problem of all-out mobilization for war has been accomplished. The problem now is to maintain these production levels as long as they are needed to prosecute the war but to cut back every program as soon as it develops the production is no longer needed by our armed services. This will help bring about an orderly conversion to peace.

If, during the conversion period, we continue to have team work between government, industry, labor, and the public as a whole, we can demobilize for peace as successfully and effectively as we mobilized for war.



James F. Byrnes

U. S. WAR MUNITIONS AND WAR CONSTRUCTION



*Aircraft; Navy ships and equipment; guns and fire control; ammunition; combat vehicles; communication and electronic equipment.

†Cargo and supply ships; automotive vehicles (other than armored); clothing; medical and dental equipment and supplies; railroad equipment; fuel; other equipment and supplies.

War Production: The Peak Year

by Donald M. Nelson

Chairman, War Production Board*

DURING 1944, the munitions production of the United States has amounted to nearly one-half of the world's total. If the output of the U. S. is added to that of the other United Nations, the 1944 total adds up to 75 per cent of the world output.

The dominant position of the U. S. at the present time is in striking contrast to past years—1939, for example, when this country produced only 3 per cent of the world's munitions, or 1941, when our share of the world's output amounted to only 12 per cent.

Nineteen forty-four marks the peak-year of U. S. industrial mobilization for war. This year we have produced the staggering total of \$64,000,000,000 worth of war equipment. This volume is eight times our output in 1941, when our munitions program was just getting under way. Our gigantic strides forward during the past three years are shown by the comparative dollar-figures for munitions output during 1941, 1942, and 1943. Here is the score:

1941\$8,000,000,000
194231,000,000,000
194357,000,000,000

America has in 1944 accounted for 45 per cent of the combined combat output of the seven major belligerents, totaling \$115,000,000,000. The United Nations together, with an aggregate combat munitions production of \$85,000,000,000, will top their enemies by a ratio of nearly 3 to 1. This is a dramatic reversal of the situation on 7 December 1941, when the combat munitions production of all the United Nations amounted to only about \$30,000,000,000 and was just about neck-and-neck with the Axis.

The stupendous achievements of America's munitions industries in 1944 were all the more remarkable when it is recalled that the nation's economy has chalked up this record in spite of the withdrawal of 11.8 million able-bodied men for service in the armed forces. The nation has had to count heavily on women workers, many of whom were new to industrial work and had to be freshly trained. The vital role which woman-power has played in war production is illustrated by the fact that, in July, 1944, 2,750,000 women were employed in war production, compared to less than 500,000 in April, 1941.

* Resigned 30 September 1944.



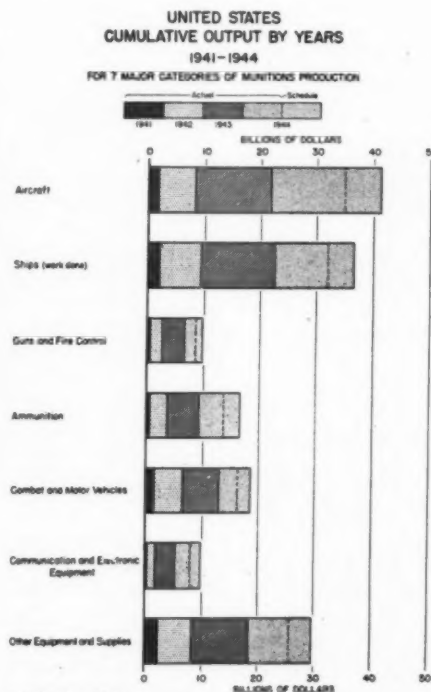
Left, Mr. Donald M. Nelson, chairman of the War Production Board from 16 January 1942 to 30 September 1944 when he was succeeded by Mr. J. A. Krug, right.

Of the many war-programs which came to full maturity in 1944, the aircraft program and the synthetic rubber program are two typical examples.

In January, 1940, the U. S. turned out only 267 planes (weighing only 1,500,000 pounds, including spare parts), in contrast to the record number of 9,117 planes (weighing 101,400,000 pounds, including spares) which were produced in March 1944. The total output in 1941 was only 19,290 planes, weighing 85,700,000 pounds, while output for 1944 jumped to nearly 100,000 planes, weighing about 1,110,000,000 pounds.

The synthetic rubber program has been another miracle of cooperation between workers, technicians, management, and government. After the Japanese overran the Pacific after Pearl Harbor, over 50 facilities for the production of man-made rubber were put into operation at a cost of \$750,000,000. By 1944, our annual output of synthetic rubber had risen to about 810,000 tons for the year.

The magnificent achievements of the U. S. armed forces and of the armies of our allies during 1944 are imperishable tributes to the ability and courage of our fighting men. They are also history-making testimonials to the unprecedented production accomplishments of American industry and American labor.



Crushing Germany's Industrial Strength

by Lieutenant General Carl Spaatz, USA

Commanding General, United States Strategic Air Forces in Europe

IT was obvious long before D-Day that the German air force had to be rendered impotent before Hitler could be defeated. Its existing planes had to be destroyed in the air and on the ground and its source of replacements, the aircraft industry and closely related ball bearing plants, had to be knocked out and kept

knocked out. These things had to be done before Allied troops could land on the beaches of Northern and Southern France. Once the Luftwaffe had been neutralized, we would have not only aerial domination over troop and supply movements on both sides of the ground battle but increased freedom to bomb industries producing oil, tanks, trucks and other critical items, until the German war machine broke down internally.

The problem required the creation of an overall command to plan the effective use of long

range American bomber forces based 1,800 miles apart, and upon adoption of that plan, to assure adherence to it in day to day operations. With such a command, attacks from different directions could be coordinated closely to take full advantage of breaks in the weather and require the enemy to disperse his defensive fighters and worry about several fronts at once. Created to meet this need, the United States Strategic Air Forces in Europe became the first global bombing force, able when needed to strike concentrated blows from England, Italy and Russia against the most critical targets anywhere within the "Fortress Europa." The Eighth Air Force in England and the Fifteenth Air Force in Italy, both of which had already made many effective attacks against the enemy and destroyed great numbers of his planes, came under the immediate directions of this command in January 1944, and in April the Eastern Air Command was established to operate bases in Russia.

Each force had its own special problems and targets—the Eighth usually had worse weather and a more numerous fighter defense to contend with over Germany but it could reach deep into the industrial complexes of the Reich; the Fifteenth had to cross the Alps to get to Germany but it could also attack the rich oil production of the Balkans. The Eastern Air Command was close to the Balkans and to certain special targets in Poland and Czechoslovakia. The Eighth and Fifteenth were often subject to tactical requirements of the theater commanders, but for the

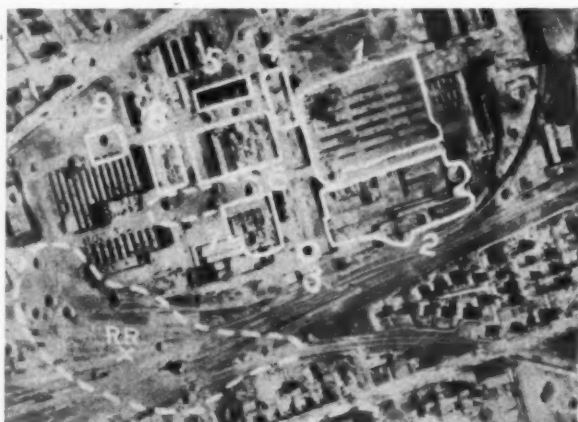
most part these forces could be directed by the United States Strategic Air Forces in their normal role—strategic bombing. Proper priority could be given to targets, the golden opportunities of breaks in the weather could be seized, and carefully synchronized attacks could be made from Italy and England, one force drawing off German fighters in order to give the other a much freer approach to the target.

Important victories had been won with the limited forces available during most of 1943, when our airmen fought their way through fierce opposition to bomb a number of aircraft and bearings factories and destroy thousands of German fighters in aerial combat. By 20 to 25 February of this year, when a remarkable and most fortunate streak of good weather broke over Germany, we had sufficient planes and crews to strike at major plants throughout the Reich. In those six days it was possible to send maximum forces over the fighter aircraft factories and cripple so many of them simultaneously that, up until D-Day, the Luftwaffe was never able to replace planes as fast as it lost them. The six-day period saw the United States strategic air forces deliver its first coordinated, synchronized attack, the Eighth hitting one group of factories at Regensburg in South Germany and the Fifteenth hitting another group there at almost the same time. Powerful bomber forces and equally strong fighter forces to escort them had been building up for months, until in these operations we were able to put about 1,300 bombers and 1,300 fighters in the air simultaneously. (Some of the fighters in the Eighth's escort came from the Ninth

(Continued on page 162)



Lt. Gen. Spaatz



Air Forces Photo

Flying Fortresses created this damage to three important Nazi war plants at Friedrichshafen: the Zahnradfabrik gear-cutting factory, the Lowenthal Dornier plant, and the Manzell Dornier works. Key: 1—Partial destruction of roof of gear-cutting and machine shop. 2—Press shop three-quarters destroyed. 3—Medium unidentified building damaged. 4—Small building severely damaged by direct hit. 5—Small building completely gutted. 6—Medium building partially destroyed. 7—Alloy shop more than one-third gutted. 8—Small unidentified building destroyed. 9—Machine shops damaged.

U. S. Naval Forces Europe

by Admiral Harold R. Stark, USN

Commander, U. S. Naval Forces in Europe

DURING the past year the United States Navy operating in the European Theater helped put a date into the history books that will endure so long as stories of great conflicts fascinate mankind. Every American schoolboy of the past knew at least one date in English history—1066—The Norman Invasion. Every American schoolboy of the future is almost certain to know another invasion date—1944—The Norman Invasion in Reverse—that is—The Anglo-American Invasion of Normandy.

Back of that date were over two years of intensive planning and dress rehearsals. The British began it almost the day after their army was forced out of the Continent of Europe in 1940. But it was not until the immense resources of the United States became available that a frontal assault on Hitler's "Fortress Europe" was possible. And before these resources in men and material could be brought to Britain, the bitter "Battle of the Atlantic" had to be fought and won in 1942-43. In this fight against the U-boat, which was finally brought under control as a serious menace to our convoys, the United States Navy—its ships, its men, and its planes—played a steadily increasing part.

It is safe to say that no allied military operation in history was more ingeniously contrived or minutely coordinated than the assault on the Normandy beaches. The objective was simple enough—to gain a lodgement on the French coast by means of overpowering fire power and then pour in thousands on thousands of troops before the enemy could mobilize his reserves. But to outwit an alert enemy as to the precise

time and place of the landing and to overcome his intricate network of beach defenses required a most complex organization. Nearly every weapon—physical and psychological—the command of the British and American ground, sea, and air forces had to be employed.

The American Navy's contribution to the scheme began in the late summer of 1943 when thousands of ship maintenance men and "SeaBees" began to arrive to establish bases in Southern England. Soon afterwards hundreds of landing craft commenced to assemble, and their crews began training with the American



Steaming in almost within rifle range of the French coast, the U. S. Navy cruiser *U.S.S. AUGUSTA* looms mammoth in size in comparison to the tiny landing craft speeding toward shore.

Navy Photo

Army units they were to carry to France. In the early spring of 1944 the combatant ships which were to protect the transports and landing craft and to bombard the enemy coast began arriving; they too, participated in special exercises with the Army. Each week this armada grew until, just before D-Day, the American ships and craft numbered more than 2,400, and what is even more significant, 99.4% of these were fully operational and ready for battle on D-Day—U. S. Naval personnel involved numbered well over 100,000. These figures do not include the British Naval forces.

If from a material standpoint, it was a logistical triumph to be 99.4% ready; it was a triumph of the human spirit that it was 100% prepared. Full honor must be paid to the officers, from those of flag rank down to and including newly commissioned ensigns; but no words will ever describe the solid trustworthiness of hundreds of young coxswains and of thousands of still younger seamen who operated their craft through strong tidal currents, mine fields, underwater obstacles, machine gun and enfilading artillery fire, and a nasty surf, with little or no sleep, hour after hour, during those first critical days, and who got men and materials ashore where they were wanted. This was the reward for the long months of training and dress rehearsals, and of the *as you train — so will you fight*.

The Navy's first job was to carry the soldiers across the Channel to their specific destinations, bombard and neutralize the enemy's guns, and destroy the beach obstacles so that the troops could gain a foothold and then push inland. This it did. Its second main job was to keep the flow of men and supplies—the "build-up"—moving smoothly into France. This it has, and is doing, despite some of the worst early summer weather known in the English Channel for many years. In less than a month after D-Day there were landed approximately 1,000,000 men—650,000 tons of stores—and 183,500 vehicles.

As the battle plans now unfold, the ring around Germany continually contracts and tightens. No matter where the Nazi looks, he is inexorably hemmed

(Continued on page 166)



Navy Photo

Admiral Stark rides aboard a U. S. Army DUKW en route to inspect Allied invasion beach-head in France.

Mastering the Luftwaffe

by Lieutenant General James H. Doolittle, USA

Commanding General, Eighth Air Force

THE year 1944 saw the Eighth Air Force in England come into the power dreamed of by Lt. Gen. Carl Spaatz, the first commander of the Eighth, and by Lt. Gen. Ira Eaker who boldly led 12 Flying



Lt. Gen. Doolittle

Fortresses to bomb marshalling yards at Rouen, France, on 17 August 1942, the first USAAF blow against the Germans.

After more than a year of building, fighting and working, the Eighth became, in the early part of 1944, the USAAF's most powerful

striking force.

It is well that this strength was here. Neutralization of the Luftwaffe, which was necessary before invading Europe in the West, was the special assignment of the Eighth Air Force. Expansion of the German aircraft industry and conversion to fighter production, begun in 1942, had increased the Luftwaffe's single and twin-engine fighter strength to a then all-time peak—about 3,000 front-line planes—by the beginning of 1944, with mass production just coming into full swing.

In the south, in the west and in the east, Allied air forces had cut down Germany's aircraft by the thousands. Up to 1 January 1944, the Eighth alone had shot down more than 4,000 and destroyed hundreds more on the ground by bombing airfields and assembly plants. But the Germans' expansion program was becoming effective. Her plants were hatching fighters faster than they could be destroyed in combat on all fronts combined.

These plants had to be destroyed

en masse if the invasion forces were to have complete air supremacy, and not destroyed one at a time, over a period of time. If we gave one of their plants time to repair before we attacked another, they could maintain a substantial, if somewhat reduced, level of production. It was, therefore, necessary to cripple the bulk of the enemy's fighter production within the shortest possible period; then to keep going back to prevent recovery.

This plan required bombers and crews enough to send separate task forces in strength to as many as eight or ten different factories at one time, and weather that would permit daylight precision bombing of these relatively small, widely separated targets.

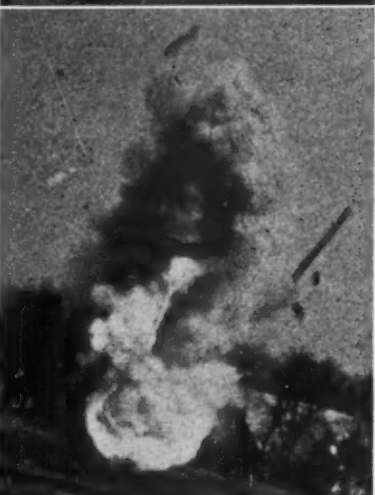
Early in 1944 the Eighth got both of these necessities—the power and the opportunity to use it.

The campaign was continuous, but it reached its peak in one furious week of February. On 20 February, for the first time anywhere, more than 1,000 four-engined bombers were put into the air in daylight on a single operation. Composed of 16 distinct combat wing formations, this armada, in a column over 100 miles long and some 10 miles wide, invaded central Germany and attacked ten separate aircraft factories.

Three more heavy blows followed in the next five days, and by February 25, Germany's mass production program had been broken and her monthly fighter production cut back to the level of late 1942. During this period, 16 major aircraft plants, accounting for a large part of the enemy's total fighter production, had been destroyed or very

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→
An 8th Air Force fighter pilot over occupied France catches up with a Nazi Focke-Wulf 190. From top to bottom the sequence photos show: (1) The Nazi plane skims the tree-tops trying to evade pursuit; (2) Hit by the American's bullets, the Nazi plane explodes in a blinding flash; (3) An instant after the explosion, the right wing tip of the doomed Nazi plane is visible; and (4) A flaming ball of smoke and debris plunges the few remaining feet to earth.



Army Air Forces Photos

The Battle of Montelimar in Southern France

by Lieutenant General A. M. Patch, USA

Commanding General, Seventh Army

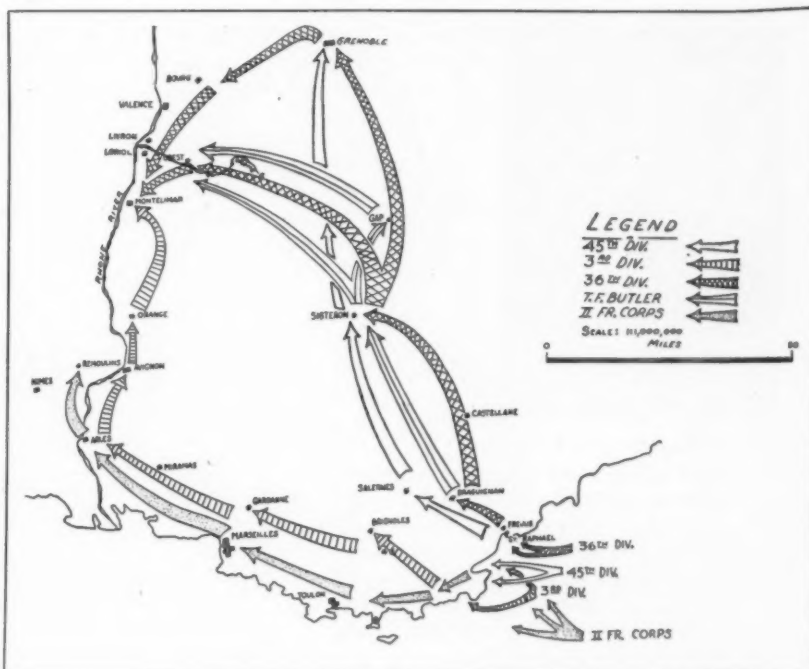
THE Seventh Army's assault forces, aided by close air and naval support, rapidly overcame enemy coast defenses and established initial beachheads. A quick link-up with our airborne forces, some miles inland, was proof that the landings had gone according to plan.

German reaction to this rapid advance was to block our movement toward the Rhone River with their forces east of Marseille, while other elements further west would attempt to withdraw northward. Because of the nature of the terrain, the Rhone Valley, through which ran the principal road-nets to Lyon, Dijon, and the Belfort Gap, was the only logical axis of withdrawal.

Thus our line of attack developed north and northwest. The 36th and 45th Divisions of the VI Corps advanced north in the general direction of Grenoble. The 3rd Division moved northwest towards Avignon and up the east bank of the Rhone River; while French Army "B" undertook the mission of overcoming enemy resistance in Toulon and Marseille and then reconnoitered in force up the west bank. The quick capture of Toulon and Marseille by French Army "B" was an accomplishment worthy of highest praise, for it made available port facilities, which were vital to the success of the campaign.

In order to exploit any major breakthrough, if such a situation arose, a highly mobile, hard-striking provisional armored group had already been created by the Commanding General of the VI Corps. This force consisted of the following:

117th Ren Sq, 2nd Bn 143 Inf Regt
59th Armd FA Bn, 753rd Tank Bn
(—1 Lt Co, & Med Co) 1 Co 636th TD Bn



On the morning of 18 August the force moved northward from Draguignan toward Sisteron.

The Germans were faced now with an outflanking movement which could block their escape route. They probably had counted on a large-scale delaying action in the vicinity of Avignon to conduct a more ordered retreat, but this was not possible in view of the Seventh Army threat from the east. Accordingly, they decided to assemble further up the Rhone near the town of Montelimar, and endeavored to check pursuit by resisting stubbornly at Brignoles and Aix-en-Provence.

On 21 August our air reconnaissance reported enemy transport moving north up the Rhone Valley with elements of the 11th Panzer Division in the lead. Several heavily loaded railroad trains were also observed going in the same direction. It was now evident that enemy armored and mobile units were trying to get away and were leaving supply columns and rear echelon units to shift for themselves. Movement was largely confined to the principal north-south railway line and Highway 7, both of which passed through

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Lt. Gen. Patch



Part of a German convoy of approximately 400 vehicles which was destroyed by units of the Third Division. These vehicles were caught by mortar and small arms fire on the outskirts of Montelimar, France.

Signal
Corps
Photo

Quays Of Victory

by Major General Lord Burnham, CB, DSO, MC, TD, DL

Director of Public Relations, War Office



Maj. Gen. Burnham

I HAVE been asked again for a review of the twelve months preceding the end of October. Last year I was able to record some of the see-saw battles up and down the desert and the remarkable comeback from El Alamein to the expulsion of the Axis from Africa. Much of that story was peculiarly ours. This year, changes have been vastly more

dramatic and infinitely more important. But the story is, throughout the year, yours and ours inextricably and insolubly involved, not only in common cause but in united operations and in every theater, and there seems little reason why we should tell it to you any more than you should tell it to us.

It is indeed an uncommonly common story. Our Tenth Corps landed with your Fifth Army at Salerno and marched and fought their way up the Adriatic coast. Our First, Fifth and Fifty-sixth Divisions fought in your Sixth Corps at Anzio. You marched into Rome and we into Florence and at the time of writing, the line from the Gulf of Genoa to the Adriatic shores has free intermingling of American, British and other Allied formations. On the Burmese frontier, land forces engaged are predominantly British, one-third of the Indian divisions even being from the United Kingdom, but the share of General Stilwell and his American and Chinese troops is one which nobody would undervalue. In the island battle of the southwest Pacific the Americans and Australians fight under General MacArthur but operations across the central Pacific which have carried your Task Forces to Formosa you have shared with no one. In northwest Europe not only are our armies fighting side by side, but British divisions have fought in American corps and Americans in British.

So much is it a common story that rather than attempt twelve months

review I would prefer to deal with the invasion of fortress Europe alone and then only with three points in relation to it.

Firstly, long term planning because, though we often speak of it, few of us really appreciate how long it was and what testimony it gives to the courage and confidence of our leaders. Secondly, integration of our command, which is so much more than a phrase. It has become a complete reality and is the greatest as-

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Allied Air Forces

by Air Commodore H. A. Jones, CMG, MC

Director of Public Relations, of Britain's Air Ministry

THE full story of the vast preparations which culminated in the great air assault on the continent of Europe on June 6th, 1944—and all that has happened in the air since D-day—has yet to be told. The world has heard that 11,000 aircraft of all types took part in the invasion of Normandy, that they flew 13,000 sorties in 24 hours and that 10,000 tons of bombs were dropped in the first eight hours. The story of the destruction of the enemy defenses by the combined Air Forces and the protection given to the Allied land and sea forces as they crossed the Channel and stormed the beaches has also been recorded. That first phase was followed by the systematic destruction of bridges and roads, thereby depriving the enemy of sorely needed reinforcements and isolating the battle area.

The Luftwaffe made vain attempts to interfere but they were obliged to abandon a large number of forward airfields along the Loire and in Brittany and German fighters were forced back to bases far beyond the battle areas. Early in August a new phase opened. The Allied armies were preparing to close a trap round the German army Normandy. It was not certain whether the enemy would attempt to draw out of the trap. Had he at-

tempted such a task the Allied Air Forces were ready to deal a shattering blow with the object of turning the retreat into a rout. By deciding to stand their ground the encircled German forces accepted the only alternative—destruction and surrender.

One day it may be known why the enemy made that fateful decision. He was aware, without a doubt, of the doom which awaited him if he had decided to attempt to move his troops and supplies along the roads. For weeks he had restricted his movements to the hours of darkness. A daylight withdrawal would have presented a "sitting target" for our waiting fighters and fighter-bombers. When, possibly out of despair, he finally decided to attempt a withdrawal it was too late.

Between 7 and 10 August the Germans launched their great armoured counter-attack at Mortain. The object of that attack was to cut the Allied forces in two and to carry the German army through to the sea at Avranches. The Canadian army was pushing southward to Falaise and the American forces were speeding eastwards to Alencon. Thus the Allied Air Forces were given their opportunity to prove their powers in turning the tide of battle. The German coun-

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Britain's Royal Navy—A 1944 Review

by Admiral Sir William James, GCB

Member of Parliament for the North Division of Portsmouth, and Britain's Chief of Naval Information

IF the Allies were to emerge victorious from World War II, the navies, protected by the air forces, would have to carry the army to the landing place on the Continent selected by the Generals, so that the armies and air forces could attack the enemy in his central citadel. That has always been the object before the eyes of the Allied leaders, and after many years of bitter struggle that object has been achieved. It could only be achieved if the sea lines of communication were freed of enemy interference and there was

doubt that there would be adequate shipping for the colossal enterprise that was being planned.

Britain's Royal Navy, during the last year, met five commitments.

Firstly, keeping up the highest possible offensive pressure against the submarines.

Secondly, preventing the enemy's capital ships from operating in the North Sea and Atlantic Ocean,

where they could do irreparable damage to the allied war effort.

Thirdly, holding the control of the sea lines of communication in the Mediterranean and supporting the armies in Italy when possible by ships' gunfire.

Fourthly, producing highly trained personnel for the armade of small craft necessary for large scale amphibious operations.

Fifthly, conveying the army to the selected beaches and supporting the landing with ships' gunfire.

The first commitment of defeating the submarines was met by the combined offensive operation of shore based aircraft, escort vessels and special hunting squadrons.

The second commitment was met by destroying the Scharnhorst in northern waters and keeping the Tirpitz immobilized by carrier-borne air attack. The destruction of the Scharnhorst was entirely due to long years of training in night fighting. It was during the years of peace that Britain's Royal Navy tackled the difficult problem of night fighting at sea. For over 150 years, night action between capital ships had been considered impracticable. It was impossible to distinguish friend from foe, the admiral would lose all control, and the night performance of guns and illuminants was very poor. But when most of these deterrents to night fighting had been removed by new inventions and improved methods of control, it was considered

(Continued on page 160)



Adm. James



British and United States combined Chiefs of Staff with President Roosevelt and Prime Minister Churchill at Quebec, September 1944. Left to right, seated—General George C. Marshall, Chief of Staff, USA; Admiral William D. Leahy, USN-Ret., Chief of Staff to the Commander in Chief; President Roosevelt; Prime Minister Churchill; Field Marshal Sir Alan Brooke; Field Marshal St. John Dill; (standing) Maj. Gen. Hollis; General Sir Hastings Ismay; Admiral Ernest J. King, USN, Commander in Chief, U. S. Fleet and Chief of Naval Operations; Air Marshal Sir Charles Portal; General H. H. Arnold, Commanding General, Army Air Forces; and Admiral Sir A. B. Cunningham.

sufficient shipping to carry the large armies and vast quantity of impedimenta which modern armies require.

It became evident in the summer of 1943 that the sea and air forces of Britain and the United States were at last gaining dominion over the submarine menace, and the flow of new ships from the building slips in British and United States shipyards left little

considered impracticable. It was impossible to distinguish friend from foe, the admiral would lose all control, and the night performance of guns and illuminants was very poor. But when most of these deterrents to night fighting had been removed by new inventions and improved methods of control, it was considered

Shipbuilding and Ship Operations in Wartime

by Vice Admiral Emory S. Land, USN-Ret.

Chairman, United States Maritime Commission, and War Shipping Administrator

WAR has brought to the people of America a consciousness of the importance of a strong Merchant Marine to the security of our shores. The term "logistics" has become a part of the vocabulary of every one



Vice Adm. Land

who follows the news of the war and, as a nation, we have come to realize the tremendous dependence our military leaders place on merchant ships. The American Merchant Marine has been one of the factors upon which the fate of the civilized world has hung in the last three years. As the Allies close in on Germany and General MacArthur begins the liberation of the Philippines, our Merchant Marine emerges as the bulwark from which the Allies halted encroachment of the Axis forces and one of the most essential parts of the offense that will mean final victory.

The pattern of our shipbuilding and ship operations in the three years we have been at war has excited the imagination of the world. The success of our shipbuilders, our merchant seamen and steamship operators in solving the complexities of this greatest of shipping operations will doubtless leave a mark on history. More than that, however, creation of such an armada of merchant ships as we now possess has imposed a tremendous responsibility on us. It is the responsibility of maritime leadership, whose duties and problems will increase when the war ends. Broadly stated, it is the obligation to retain for ourselves our stature as a maritime nation, without imposing on the rights and the needs of other nations to whom ocean commerce is also an es-

sential in their development and welfare.

What ships have we built in the war period and what will be our probable position at the end of the war?

In the first two years of our wartime shipbuilding program the nation's shipbuilders surpassed a Presidential directive to build a total of 24 million deadweight tons of shipping by more than three million tons. It was the great period of emergency construction, when those yards building Liberty ships broke every ship construction record and placed a total of 1,780 Liberty ships in the service of the United Nations, in addition to 862 vessels of other types.

So tremendous was the production of ships in these 24 months that the Maritime Commission was able to announce at the beginning of 1944 a change in construction policy. The intense period of emergency construction was past, the Commission said. Facilities for manufacturing turbine propulsion units—the lack of which in sufficient quantity had caused the adoption of the slower reciprocating steam engine for the Libertys—were increasingly available. The situation, the Commission said, permitted a switch from the Liberty program to other types of construction. The Victory ship, a fast, modern vessel, powered by turbines and capable of making up to 17½ knots compared to the Liberty's 11, had been put in production in November, 1943. There would be increasing attention given the tanker and long range program also, the Commission said. In other words, the Commission would emphasize quality of shipbuilding rather than a race for tonnage.

This change in policy did not by any means imply that the Commission had any thought that the shipping emergency was over. Shipyard workers and management were given every exhortation and incentive to increase their production and not permit any false optimism to slacken their efforts. These pleas

continue, for the Maritime Commission and War Shipping Administration have full belief, based on experience, that so long as we are at war we shall not have a surplus of ships.

In April of 1944 the Commission ceased to enter into contracts for new Liberty ships. Some contracts now existing run into 1945. These will be completed, but as the best yards complete their Liberty contracts they are converted or diverted to other types of construction. The speed records of 1942 and 1943, when two of every three ships built were Liberty ships and some of these great cargo vessels were completed in as little as 16 days in regular production, will remain unchallenged. In their places on shipways are hulls for Victory ships, for military type vessels, for tankers and the Commission's C-types, with which a program of rejuvenation for our ailing Merchant Marine was begun in 1937-38.

Monthly deliveries of Libertys have declined sharply in 1944. From a high of 83 Libertys delivered in March these ships dwindled to 43 in September. In their place on the production charts the number of "special types," the military vessels the Commission builds, has risen steadily. Tanker deliveries have risen to an average of 17 each month. Seventy-five Victory ships and 112 C-types were delivered through September.

Looking at our ship construction program from a projection to the end of 1944 we find our merchant fleet—not counting losses—to consist of about 2,500 Liberty ships; more than 400 C-types; about 500 oceangoing and coastal tankers; approximately 100 Victory ships; plus many ships built in considerable variety for special purposes. In the aggregate these vessels will have a deadweight capacity of about 50,000,000 tons.

These are the products of the shipping industry. Also, on the human side of the ledger we have a tremendous balance in our favor.

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The Munitions Assignments Board

by Harry L. Hopkins

Chairman, Munitions Assignments Board

IT was on 26 January 1942 during the first series of conferences between the President and Prime Minister Churchill after the attack upon Pearl Harbor that the Munitions Assignments Board was established in Washington and London.

The military situation of the Allies was grave. German armies were deep in Soviet territory. Most of Europe had been subjugated and harnessed to the Nazi war machine. The threat of invasion hung over England. U-Boats periled the Atlantic life-line and preyed upon our South American shipping. Sinkings were high. The Afrika Korps was preparing for its march across North Africa toward Alexandria and Suez. In the Far East the heroes of Baatan were writing their immortal story. Hong Kong had fallen on 19 January and Japanese forces were moving against Singapore, destined to surrender on 15 February. The Dutch East Indies, Australia, and New Zealand prepared as best they could to meet the invader. The juncture of the Axis in the Middle East was a distinct possibility.

One of the few encouraging factors was the knowledge that the potential power of the Allies was great and overwhelming. But a formula was needed to transform potentiality into adequate and effective armies, navies, and air forces and into planes, ships and guns. That central formula—the pooling of the combined resources of the United Nations—became a reality at the conference of the President and the Prime Minister. It has served materially in making possible the victories now being won on the battlefields.

To carry out this effective pooling principle in the two nations, the President and the Prime Minister established a series of Combined Boards, to work in cooperation with the Combined Chiefs of Staff: (1) The Munitions Assignments Board to assign finished munitions to the fighting allies where they could do the most good in defeating our com-

mon enemies; (2) The Combined Shipping Adjustment Board to allocate allied shipping in the most effective way to achieve victory; (3) The Combined Raw Materials Board to develop our production and procurement of strategic raw materials and their allocation to the United Nations for the production of munitions and vital war supplies in the most effective manner; (4) The Combined Food Board to arrange for the efficient production, procurement and utilization of food for the waging of the war; and (5) The Combined Production and Resources Board to integrate the allied production and use of resources in the manner best adapted to achieve these strategic goals.

The Munitions Assignments Board—one of the five combined boards—has served as an important link in executing our strategic plans.

With the approval of the heads of State, the Combined Chiefs of Staff formulate the strategy. The operational military staffs develop the supply program necessary to effectuate the plans. The Munitions Assignments Board then passes on the requests for finished munitions submitted through its various technical subcommittees and allocates the munitions to the various war fronts in accordance with the strategic needs of the current military situation. The supply services make the distribution on the basis of these decisions.

Combined American and British committees have been set up to act in both Washington and London on the allocation of finished munitions. They deal with the many problems involved in the distribution of finished munitions among the United Nations. The Board is empowered also to confer with representatives of the Soviet Union, China, and such others of the United Nations as are "necessary to attain our common purposes."

Sometimes it is necessary to whittle down recommendations for one theatre to supply pressing needs in another. During most of 1942 the



Mr. Hopkins, left, with Marshal Stalin, right, at Teheran.

Axis held the initiative. Consequently, it was in a position to choose the points of attack. The United Nations were obliged to defend widely scattered fronts and hold areas which the enemy threatened, to gain time to equip their forces. Once in 1942, for example, 40 Boston bombers en route to the Soviet Union were reconsigned to help General Montgomery's African drive. Later 50 Spitfires were shifted from the Middle East to the Soviet Air Force. There have been hundreds of such decisions.

Plans, of course, are mapped out and perfected long in advance of actual operations. In making its assignments, the Munitions Assignments Board considers the entire munitions resources of the United States and Great Britain as in a common pool. By drawing upon that pool, united military efforts like those of North Africa, Italy and France have been made the more effective. For example, General Montgomery's Eighth Army in North Africa attacked with American-made General Sherman and General Lee tanks, as well as with their own Valentine tanks while some of our fighter squadrons flew British Spitfires, and many of our planes landed and took off on port-

(Continued on page 164)

The Red Army and the Art of War

by Major General G. Isayev

General Staff, Red Army

MILITARY science in the Soviet Union was on a high level even before the present war. It dealt with, and as proved by experience, in the main correctly solved, the major problems concerning organization and conducting battles and operations and the conduct of war campaigns.

A number of countries, particularly Germany, cultivated one sided hypertrophical development of one particular type of weapon at the expense of others, stressing the all importance of tanks and aircraft in future warfare. This was not the case in the Soviet Union which built its armed forces on the doctrine of consistent development of all modern means of war and the mastery of every up-to-date method of warfare.

The Red Army doctrine contended that in modern warfare great significance must be placed in the mass application of fire power and that all weapons, particularly artillery, would inevitably be in greater use even than in the first world war. Artillery has by tradition always been rated high in the Russian Army and this, as proved by war operations today, is well founded.

Nor did the Red Army under-rate the part of engines in modern warfare, the significance of motorized and mechanized armies, and the role of mass employment of tanks. It did not share the opinion of extremists among mechanized troops in some other countries, but it accomplished much toward the creation of a strong tank force with considerable cadres of tank crews and good models of battle machines. Thus the foundation for the development of a powerful Red Army tank force was laid. "Thirty-four," the principal model, was designed before the war, but is still the best of modern tanks and one which the Germans have tried in vain to imitate.

Technical development and the training of flying personnel of the Soviet Air Force also ranked high before the war. The long distance flights of Soviet aircraft and the skill of Soviet pilots were known all over the world.

The training of the Red Army was founded on active operations, maneuverability and offensive spirit, which aimed at gaining decisive

victories in battle.

Very important was the fact that already in the 20's the Red Army had made substantial progress in the development of the theory of deep battles and deep operations. In its essentials this theory provides for the simultaneous reduction, not only tactically but also operationally, in depth of enemy defenses with all available means and also to develop tactical breakthroughs into operational ones with the object of reaching open ground before the enemy is able to bring

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The Soviet Air Force

by Lieutenant General N. Zhuravlev

of the Soviet Air Force

CONTROL of the air on the Soviet-German front has been in the firm grasp of the Soviet Air Force since the Spring of 1943, and with every passing month that control is becoming more and more complete. How great is the superiority of Soviet aviation may be deduced from the fact that its daily number of operational flights exceeds that of the Luftwaffe by several times.

Air combats are as common as before, but they differ greatly from the battles of 1941 or even 1942. If at the beginning of the war the initiative belonged to the Germans, today it is the Soviet pilots who hunt down the enemy over his own territory and force him into battle. Air fights generally end in victory for the Soviet pilots. German fighter pilots strive to evade encounters with Soviet aircraft but do not always succeed since Soviet "Yaks" and "Lavochkins" are faster than Messerschmitts and Fockewulfs.

Germans only fight when they enjoy considerable numerical superiority. But even then they are often licked for they lack flying and fighting skill of the Soviet pilots.

German bombers have been reduced to such a state of terror that

they never appear inside the range of Soviet fighters unless protected by fighter escort. When they do succeed in reaching the Soviet lines they hurriedly release their bombs and immediately turn for home.

The Soviet air arm won air supremacy by stubborn fighting. Victory over Goerings' Air armada did not come without great effort and sacrifice. The first two years of the war, from June 1941 until June 1943, when the Soviet air force was practically alone in the struggle against four German air arms, were particularly strenuous. But the iron will of the people and their bitter hatred of the enemy helped them to bear the strain and cope with the situation. The aircraft industry supplied fine machines and in sufficient quantity and the pilots made the best use of them. All this, plus the aid in planes by Great Britain and the United States of America led to the fact that the sky on the Soviet-German front is now dominated by Soviet pilots.

Soviet fighter pilots played a major part in the struggle for air supremacy. By dashing attacks and fire at the close range of fifty and one hundred meters they destroyed

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The Soviet Navy's Part in the War

by Rear Admiral I. Elisyev

Soviet Navy

THE movement of Hitler's hordes in the Soviet territory might be compared to the swing of a gigantic pendulum with its point of suspension in Murmansk in the far north.

In the eastward swing the fastest movement was attained in the south of the Soviet Union where the enemy reached Stalingrad, occupied the whole of Kuban and got within close reach of the Caspian Sea. In the center the enemy in the Baltic area got Stalingrad. Only in the far north was he unable to make any appreciable headway.

The character of the enemy's movements on land predetermined the character of operations of the Soviet Navy in the early war period.

In this period the Red Army's activity was one of strategical defense. Its efforts were directed towards stemming the enemy's advance and decimating his divisions, thereby giving a chance to the country to mobilize its forces, and to concentrate them for a crushing blow at the German war machine. The Soviet Navy took an effective part in these active defensive operations.

In laying his plans, Hitler paid little attention to the Soviet Navy and this undoubtedly was one of his major strategical blunders. As early as 1941 German propaganda confidently asserted that the Soviet Navy had been completely destroyed.

The Germans paid dearly for this boastfulness and self assurance. The Soviet Navy administered blows which they will not easily forget and which have contributed largely to the enemy's final discomfiture.

Let me cite a few episodes illustrating the activities of the Soviet Navy. In the autumn of 1941 the enemy had surrounded and was essaying siege of Odessa on the Black Sea coast. Nevertheless, the supply of food, ammunition, and reinforcements to the heroic defenders of the city was maintained by sea and despite of all their efforts, German and Rumanian naval and air forces were powerless to prevent it. On one of the flanks the enemy had concentrated considerable forces and at heavy cost succeeded in advancing close enough to port to keep transports and warships from bringing supplies and replenishments to Odessa under fire of his field guns. The Soviet Black Sea Fleet executed a bold operation and landed forces in the village of Grigorievka near Odessa. This move was so unexpected that the enemy on this sector abandoned his guns and withdrew in panic. The Soviet Marines seized a section of territory large enough to save Odessa from further bombardment and the situation in the beleaguered city was materially improved.

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Shipbuilding in the U.S.S.R.

by A. Kreps

The People's Commissariat of the Shipbuilding Industry of the U.S.S.R.

OWING to its geographical position and enormous coast line the Soviet Union is not only a great power on land but also on the sea. For this reason an important role devolves upon naval armed forces in the USSR.

From the nineties of the past century until 1904 the Russian Navy was among the three most powerful navies in the world. The Russian Fleet declined, however, as a result of its losses in the war of 1904-1905. Unable to replenish those losses adequately at that time, the country's ship-building industry also failed to meet its requirements in later years. Its normal development began only with the years of Soviet power. Lenin and Stalin, as leaders of the Soviet people, devoted much attention to this sphere of industry. They foresaw the importance of the Fleet in the defense of the Soviet State. The development of shipbuilding, too, was stimulated by the growth of shipping.

In the years following the World War of 1914-1918, after the end of the Revolution, the Soviet government began to restore ship building yards. At this period ship yards were building vessels for sea and river trade. Warships were re-

paired and renovated. Somewhat later it was possible to build new ships for the Navy.

At first ship building enterprises were assigned the task of building the requisite number of submarines. This was successfully done over several years. In 1939 the Soviet Union was second to none in the number of its submersibles, their quality was equal to the best under-sea boats in all types.

Submarine construction augmented the experience of ship builders and inaugurated smooth collaboration, scores of machine building, electrical and other enterprises in fulfillment of the Naval program. The number of plants subsequently drawn into naval construction was sharply increased. When due results had been obtained in submarine building the construction of various types of surface vessels was extended, including construction of large seagoing ships. In addition to old renovated enterprises, many new shipbuilding yards were set up.

The industrialization of Soviet land and the socialist character of its enterprises furnished a solid base for shipbuilding. All vessels

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Ninth Air Force—1944

by Major General Hoyt S. Vandenberg, USA

Commanding, Ninth U. S. Air Force

FROM the time of its establishment in the European Theater of Operations the Ninth Air Force was designed to function as a great Tactical Air Force in support of the major ground operations of D-Day and after. As such it was assigned missions of critical importance: to neutralize enemy air forces, to attack systematically the enemy's communications and to afford direct support to ground forces as they were committed to action.

In the nature of things the assumption of such tactical functions by the Ninth Air Force appeared a little remote as 1944 began. The grand design for its organizational build up was in process of accomplishment, but its full results were not to be fully attained until later in the year when it became the largest Tactical Air Force in history. The welding of a myriad of new units into a single organized structure proceeded apace. It was matched in speed and effect by the training of each unit for the special task it was to perform. Speed of organization and training was essential to the end that both service and combat units might engage in actual operations at as early a date as possible and profit by the experience which operations alone provide.

For a period the main objectives of Ninth Air Force Medium Bomber operations were Flying Bomb sites, particularly those in the Pas de Calais area. These attacks by Ninth Bomber Command were co-ordinated with those delivered against the same type of target by the R.A.F. and the Eighth Air Force and followed the pattern determined by Air Ministry and Allied Expeditionary Air Force. The cumulative effect of repeated assaults forced the enemy to postpone and eventually to revise his carefully developed plans for the use of his much touted "secret weapon." As Medium Bomber crews sought out and bombed these small targets they increased their skills in navigation and bombardment in a fashion which was to bear rich fruit later.

As the Groups of Ninth Fighter Command became operational during the opening months of the year their chief assignment was escort cover, varied by occasional sweeps over enemy held Europe. Mustangs and Thunderbolts of the Ninth assisted in furnishing protection to the Heavy Bombers of the Eighth Air Force as well as to the Mediums of the Ninth. In the

former connection they furnished escort and cover for deeper and deeper penetrations of enemy territory.

April proved the biggest month to date for the Ninth Air Force. Over 6,500 flights were made over enemy territory, more than 8,800 tons of bombs were dropped by the Mediums, and the Fighters quadrupled their March record. In that month and the next the Ninth Air Force began to perform more definitely Tactical Air Force Missions. Heavy assaults were delivered by the Mediums against marshalling yards located on vital enemy lines of communication and Fighter Bomber missions were launched against the same or like targets. Transportation targets of other sorts also figured among the objectives of Ninth Air Force missions. Enemy rolling stock was on occasion mercilessly strafed and bombed by Fighter Bombers, and about a month before D-Day attacks were begun against rail bridges by both Fighter and Medium Bombers. Those delivered against the bridges over the Seine below Paris were particularly successful since when 6 June arrived the enemy was denied the use of all between Mantes-Gassicourt and the sea. A major contribution was thus made to the interdiction of enemy traffic into the Normandy battle area. As D-Day approached coastal batteries defending widely separated points along the Invasion Coast where the enemy might anticipate landings were systematically attacked by Ninth Bomber Command. Such attacks not merely softened up the enemy's defenses, but also increased his apprehension of an assault on the Atlantic Wall and his uncertainty as to the exact location of the assault area.

The months of organization and training enabled the Ninth Air Force to exert its maximum strength on D-Day. Ninth Troop Carrier Command successfully transported and resupplied the Airborne Divisions which participated in the assault on the Cherbourg

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Maj. Gen. Vandenberg



A marshalling yard at Vires, France, formerly used to sort Nazi railroad traffic, is shown knocked out by Ninth Air Force bombing.

Lacing the Boot of Italy

by Major General John K. Cannon, USA

Commanding General, Twelfth Air Force and Mediterranean Allied Tactical Air Force

THE Mediterranean Allied Tactical Air Force has been the aerial hammer in 1944 for ground forces which have driven from Southern Italy through the Gothic Line and have swept across Southern France. While the Strategic Air Force (the 15th Air Force plus British night bombers) of the Mediterranean Allied Air Force has mainly concentrated on long-range bombing to destroy the enemy's ability to produce for war, the Tactical Air Force (the 12th Air Force plus British and a few French units) has aimed its versatile strength at direct support of ground forces, the isolation of battle areas and the paralysis of enemy movement within them, the destruction of the Hun's air power, the landing of troops and supplies from the air and the evacuation of wounded to rear hospitals.

Tactical Air Force came into 1944 with the battle wisdom and toughness acquired in the bitter fighting and hardships of the North Africa campaigns, the aerial assault on Pantelleria, the invasion and occupation of Sicily and the beginning of the drive up Italy. For its part in the task that lay ahead the 12th Air Force, principal component of TAF, was equipped with a Troop Carrier Command of C-47's, B-25 Mitchell and B-26 Marauder medium bombers, A-20 Boston light bombers, A-36 Invaders, P-40 Warhawks and P-47 Thunderbolts. (During the early months of 1944 the A-36's and P-40's were re-

placed by P-47's, which had proved themselves a splendid dive-bomber capable of carrying 2,000 pounds of bombs over considerable distances.) The Desert Air Force of RAF, the other principal component of Tactical, was equipped with Spitfighters, Spitbombers, Kittyhawks, Beaufighters, Baltimores and Marauders, and its main effort was in close support of the British Eighth Army in the advance up the Adriatic side of Italy. A group of French-flown Marauders and one of Thunderbolts were attached to American units and operated with them. A few figures offer a concise means of giving a rather incomplete picture of Tactical's operations thus far in 1944. The figures are in some cases so astronomical as to be beyond everyday standards of comparison, and they do not include specific breakdowns of some of our most important operations—close support of ground forces, for example. From 1 January through September our planes flew just under 250,000 sorties and dropped just over 140,000 tons of bombs. On the ground and in the air 840 enemy planes were destroyed, 120 were probably destroyed and 520 were damaged. Our losses in combat, an overwhelming majority to flak, were 900 planes. In that period TAF destroyed more than 11,000 motor transports and damaged more than 10,000 others. Something more than 4,000 railroad cars were destroyed and more than 6,000 were damaged. For locomotives our totals are 775 destroyed and 475 damaged. Our planes sunk by bombing and strafing 208 ships and boats of all types (ranging from the battleship *Strasbourg* to fishing boats) and damaged almost 600. And—this is a figure of which we're very proud—our C-47's evacuated more than 90,000 wounded soldiers during the nine-month period.

January was only 15 days old when TAF began the aerial offensive in preparation for the landings near Anzio. Our effort during the balance of January, through February and the first half of March was concentrated in support of the beachhead and the other bitterly contested stands and drives of Southern Italy. This period, which saw some of the most intense fighting of the war—in the air as well as on the ground—was climaxed for Tactical 15 March when 1,100 Tactical and Strategic aircraft reduced German positions at Monte Cassino to rubble.

Because of the rugged terrain, ideally suited for defense, and the strength of the defending German armies, a further head-on

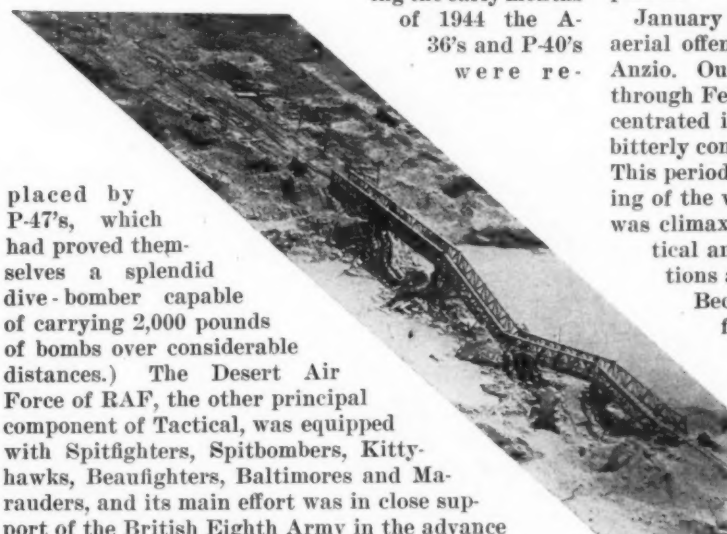
assault by Allied armies at that time might well have been disastrous, and Tactical Air Force threw virtually its full strength into the execution of "Operation Strangle," aimed to strangle the Hun by the destruction and disruption of his rail,

road and sea lines of communication to the battle area of Central Italy. The northern boundary of the area was the general line between Pisa and Rimini where the Appenines intersect the peninsula and form a

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Maj. Gen. Cannon



After the attack on this bridge near Cecina, Italy, medium bomber crewmen of the 12th Air Force reported the structure had been "damaged." This photo shows their claim was not exaggerated.

been "damaged." This photo shows their claim was not exaggerated.

The Netherlands Army The Netherlands Navy

by Major General A. Q. H. Dyxhoorn, RNA

by Rear Admiral L. G. L. van der Kun, RNN

AT 3 o'clock on the morning of 10 May 1940, without warning or provocation, a formidable German army and airforce juggernauted across the border of the peace-loving little Netherlands nation. All too soon it was apparent that the Netherlands Army, forced to stand alone in the defense of its territory, could stem the tide of German might for only a very short time. By 13 May it had become clear that within a few days the Netherlands would be brought to her knees. On the morning of that day, therefore, the Government decided to move to London temporarily where it could govern the remaining parts of the Empire and continue to take part in the struggle against the enemy.

In London plans were made for a new Netherlands fighting unit. Since the Japanese menace precluded drawing troops away from the Royal Netherlands Indies Army, the only source for building up this new fighting unit was the Netherlands nationals who were outside the Empire at the time of the German invasion or who were able to escape from occupied territory. The nucleus of the new army was formed by members of the Netherlands forces who had come fighting through Belgium and France and had succeeded in crossing the Channel to England. Netherlands recruits from Canada, the United States, South America, the West Indies and South Africa reinforced the unit.

At once an intensive training was begun. First the cadre was given the opportunity to take part in some of the English training program. After this the field training and maneuvers for the troops were begun, first within the unit, later in coordination with British and Polish troops and with the Home Guard. Equipment and material was obtained on the same basis as for the British Army, so that within a short time the Netherlands could again boast a well-equipped fighting unit. The unit was presented to Queen Wilhelmina on 27 August 1941, for inspection and received from her a standard and the name of Princess Irene Brigade.

The first assignment of the Princess Irene Brigade was the defense of a part of the coast of the United Kingdom. At this time also training of special troops, such as commandos and paratroopers, was underway. Some members of the Brigade were sent to assign-

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IN the dark days of March 1942 the Netherlands Government was faced with very serious problems. One of the most urgent of these problems was how to use the remainder of the Netherlands Navy in continuing the fight against the enemy in Europe as well as in the Far East.

The campaign in the Netherlands East Indies had been expensive. Heavy losses had been suffered in the Battle of the Java Sea, and the evacuation of the non-essential military personnel from the Soerabaya Naval Base, although successfully executed, had cost many lives.

These setbacks, however, did not for one moment influence the Netherlands Government in its determination to carry on the war with all possible means. One thing is clear, however; the small remaining fighting strength made it impossible for the Netherlands Forces to operate as an independent unit in any theater. As soon as all ships, warships as well as merchant vessels carrying evacuees had been accounted for, an inventory was made up of the available materiel and personnel. It was found that ships and



British Official Photo
Dutch soldiers of the Princess Irene Regiment captured and held the bridge across the Albert Canal at Beerungen. Photo shows German prisoners being brought back at the double across the bridge.

men were in action in all parts of the world—in Britain, in the Mediterranean, in Australia, in Ceylon and in the only unoccupied territory of the Kingdom, the West Indian islands of Curacao, Aruba and Bonaire, and in Surinam. This, of course, made the reorganization of the Naval Forces a very complicated problem, involving, as it did, the operations in many different theaters of war.

After close consultation with the British Admiralty and the Combined Chiefs of Staff it was decided that the war-effort would be best served by putting the ships under the operational command of the Commanders of the different theaters. This would cut out a lot of unnecessary moving of ships and men and appreciably shorten the time needed for regrouping and reorganization. The problem of materiel presented no serious complications, but for the personnel a few special measures had to be taken. The personnel of the Navy is partly European, partly Indonesian. The many Europeans and Indonesians who had been forced to leave their families behind in the East Indies were transferred in as many cases as possible to the East Asia or SW. Pacific Command, while Europeans with

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Our Underground Allies

by Arthur Sweetser

Chairman, United Nations Information Board

ONE of the great glories of this war which history will record down the centuries is the underground movement which broke out spontaneously in all the democratic countries from the very first moment that Axis soldiers profaned their soil. Of all the multiple proofs that Hitler's so-called "New Order" violated all the laws of God and man, one of the most irrefutable was this desperate and dangerous revolt in the night. The underground represented a triumph of the human spirit of liberty, self-respect, and self-government which will shine in the annals of mankind long after the more gruesome aspects of this war have faded into oblivion.

It is well that, as we approach victory and lay the bases for reconstruction, we render honor to those who, while we were preparing our offensives to bring back liberty and freedom to their desecrated lands, were risking their lives during the years to help prepare the way for us. Our efforts were colossal, but they were made in relative safety, amidst the companionship and comfort of our own, while the illegal and ununiformed warriors of the underground were working singly, in silence, with the awesome Gestapo always on their trail and the firing-squad just ahead.

Many years it will be before we will be able to assess in actual military terms the consequences of these hidden revolts. Scattered episodes have flashed to the surface from time to time, as the decorating of "the girl who sank the Bismarck," the discovery of the robot bombs months before their unleashing, or the exploits of the guerillas of Russia, the partisans of Yugo-Slavia, the patriot bands of Greece, or the tragic insurgents of Warsaw. But it remained for our victorious armies actually to enter the occupied countries to enable us to see the picture from the inside and realize the colossal assistance the underground had rendered the common cause and the death-like handicap it had been to the enemy. Even today, however, the picture is incomplete and probably will remain so for years; some of its most brilliant bits, alas, lie forever silent in the executioner's grave.

The underground had both its open and its hidden results. It was easy to tell, for instance, if a bridge were blown up in the night or a vital piece in a factory destroyed. It was far harder to estimate the psychological effects, the merciless eating into the hearts and minds of the oppressor, and the increased forces which



Citizens of the Danish city of Odense rush to stop a prison van loaded with local compatriots arrested by the Germans. Before German reinforcements could be rushed in, the people were able to overturn the truck and free the patriots for more of the resistance and sabotage which has been steadily plaguing the German invader in Denmark.

were necessary to guard against and repair the damage of this silent, hidden enemy. For the underground was there, always dangerously, almost uncannily present, watching for the unguarded moment, to give the enemy constant alarm and anxiety.

The underground had different methods in different countries, according to their necessities, geography, and nature. Its followed one line, let us say, in Norway, with its two, 800-mile open frontiers; it followed another in deeply embedded and isolated Czecho-Slovakia. In the former case, there was relatively free entry and exit, contact with the outside world, and concentration particularly on matters of the sea; in the latter, the weight was so great it was necessary to go deeper underground, and, in an inland country athwart the lines of military movements, to concentrate particularly on military matters.

So, also, the attitude of the enemy, varying greatly from country to country, had its differing effect on the different undergrounds. In Denmark, for instance, where the Germans made every effort to be correct and to win at least neutrality, it was possible for the underground to come relatively near the surface and take risks impossible elsewhere. In other countries, particularly in Eastern Europe, such as Poland, where the Germans pursued an utterly unhuman policy of mass extermination, the underground had to be infinitely more hidden. So also, on the psychological side, a country with long and awesome winter nights like those in Norway could adopt a shattering attitude of ostracism and loneliness which would not be possible in the atmosphere of a southern country like Greece. Each had its own weapons which it adapted to the greatest possible discomfiture of the unwanted

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Mr. Sweetser



The bombing of Cassino, Italy, 15 March 1944.

The Campaign in Italy, 1944

by Lieutenant General Jacob L. Devers, USA

Commanding General, North African Theater of Operations

THE opening of the New Year, 1944, witnessed a continuation of the bitter fighting that had prevailed on the lower Italian peninsula since the initial assault landings at Salerno in the previous September. Analyzed logically, the campaign of the American forces during the current year has thus far consisted of four distinct operational phases: a continuation of the operations along the static winter line of the Garigliano-Cassino front during the period January-May; the amphibious landing operation at Anzio and Nettuno in January, which resulted in the second period of static warfare in the beachhead thus gained until the middle of May; a period of regrouping, training, and detailed preparations for the spring offensive; and the operations of the spring offensive launched on 11 May, which carried the advance of our forces from the line of the Garigliano and the beachhead perimeter to the Gothic Line in the Northern Apennines. A fifth period, or phase, consisting of the new offensive designed to break the Gothic Line and to overrun the remaining German held territory of Italy, is in progress at the time of this writing.

These phases of the Campaign have been characterized by many types of warfare involving operations in varied terrain and under diverse and difficult conditions. In the early period the bitter fighting along the strongly held German winter line demanded and obtained the best qualities of the American soldier. Problems of supply and communication, severe winter



Lt. Gen. Devers

weather, and difficult mountain conditions all served to test the capabilities of our organization and the initiative and stamina of our troops. Likewise the epic period of the Anzio Beachhead has borne full testimony of the tenacity and fighting qualities of our troops under the most difficult conditions. In the spring offensive which broke the prepared and stubbornly defended German lines and resulted in an unbroken advance of more than 250 miles, troop leadership, sound training, and stern battlefield discipline were manifest throughout the entire operation. It may be said that in the Campaign in Italy the requisites for success and victory have been nowhere lacking among officers and men alike.

The terrain over which this extensive campaign has been fought has been highly variable and has exercised powerful influence on the operations undertaken. The advance from the Garigliano line was pushed through rugged hill masses and mountain ranges where communications and supply became difficult beyond past experience. It drove along the irregular Tyrrhenian coastal plain and across and around the flooded Littoral and Pontine Marsh area; across the open and rolling country of the Tiber basin to the north of Rome, the first Axis capital to fall to Allied arms; and finally through the rough, rugged region of Tuscany northward to the Gothic Line in the Northern Apennines. The last phase, the passage of this last mountain barrier before the Po Valley and the remainder of Italy, is now in progress.

The fighting throughout has been marked by aggressive, offensive action against determined resistance offered by veteran enemy troops in advantageous and prepared defense lines. These lines having been broken, the action became one of continual vigorous pressure against a first yielding and then a withdrawing, beaten enemy. In the later stages it became a rapid pursuit until the approaches to the Gothic Line were reached. Ground combat throughout was principally characterized by coordinated attacks of all

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Enemy shells from the resisting battery in Toulon come close to the French cruiser Georges Leguyes as she fires on the town during the bitter fighting after the invasion of Southern France. Navy Photo

The Eighth Fleet, Sept. 1943—Sept. 1944

by Vice Admiral H. K. Hewitt, USN

IN September of 1943 United States and Allied Naval Forces under my command forced the first large scale landing on the continent of Europe. This was one of twin operations. The British Eighth Army crossed the straits at Messina and onto the toe of Italy. A few days later the Fifth Army was landed on the beaches in the Gulf of Salerno. Though the going at Salerno was punishing and severe at times, the Fifth Army was firmly established ashore for the start of the campaign that was to result in the capture of Naples and Rome.



Vice Adm. Hewitt

When captured early in the campaign the port of Naples was a shambles. German forces had carried out a most complete job in demolishing the port facilities. Ships were destroyed alongside docks. In the channels one ship was sunk atop another to block the use of the port by our forces.

Allied salvage forces under the leadership of Commodore Sullivan, U. S. Navy, adopted measures that were new and novel in rapidly opening the port. Salvage and port details moved into Naples immediately after the port was captured. Ships sunk alongside docks were bridged, vessels in the channels sunk deeper or removed if time permitted so that supply ships could pass over them and the work of unloading went ahead in record time.

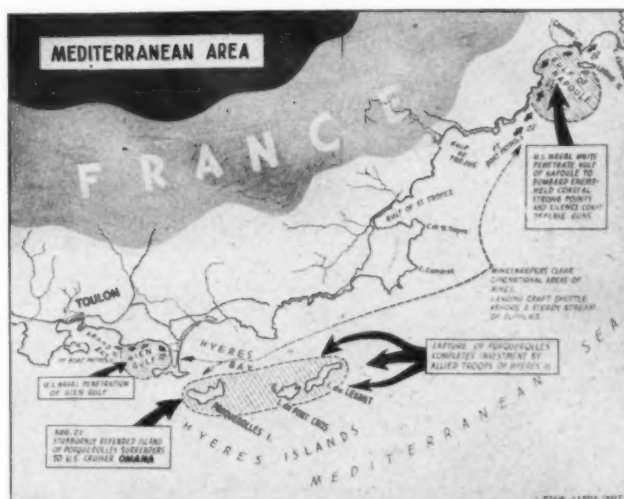
While the assault at Salerno was underway two events of historic importance in our fight to control the Mediterranean took place. First was the Italian armistice and the subsequent surrender of the Italian fleet or such units of that fleet as were able to escape from German control in Italian ports to the north of the battle lines. The second was the fall of the islands of Corsica and Sardinia.

Corsica was taken by French units under the command of Admiral André Lemmonier which were carried by destroyers and cruisers of the French Navy. They quickly effected a landing and succeeded in wresting control of the island of Corsica. Following the capture of Corsica, the island of Sardinia, to the south, was rapidly occupied.

At an early date units of Motor Torpedo Boat Squadron Fifteen, under command of Lieutenant Commander Stanley M. Barnes, U. S. Navy, which had a distinguished record of service in the Tunisian and Sicilian campaigns, established an advanced base at Bastia, Corsica and harried with telling effect the enemy sea-borne traffic on the west Italian coast.

In January a "leap-frog" landing to bypass strong German mountain positions was carried out by U. S. and British Naval Forces under the command of Rear Admiral Frank J. Lowry, U. S. Navy, Commander of the Eighth Amphibious Force, in the Nettuno-Anzio region on the west coast of Italy. The initial assault was made on 22 January 1944. For two days forces and equipment in large numbers were rushed ashore over difficult beaches with but little opposition. Then came a turn for the worse in the weather which, coupled with unexpectedly strenuous enemy air and ground opposition, slowed down and for a brief time even

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The Fifth Army—A Year of Combat

Prepared at Headquarters Fifth Army

WITHOUT pausing in its present grim mission of destroying German forces in Italy, Lieutenant General Mark W. Clark's Fifth Army recently observed 9 September 1944 as "Salerno Day," the first anniversary of the European invasion by an American force in this war.

That date is also a convenient one for a quick inventory of Fifth Army's military achievements in a year of combat that has been characterized by all of warfare's most difficult operations—landings on a hostile shore, river crossings, mountain fighting, breaking through prepared defenses, and the efficient coordination of effort by troops of four different nationalities. Linked with outstanding success on the battlefield is the remarkable solution of administrative, supply, and logistical problems of unprecedented complexity.

The year-end inventory shows: virtual destruction of the German 14th Army, severe mauling of the German 10th Army, capture of over 57,000 prisoners of war, capturing, killing or wounding an estimated 200,000 enemy troops, destruction of vast quantities of materiel, freeing of southern and central Italy, including the first Axis capital to be liberated, acquisition of three major sea ports, and facilitating operations by the Russians, Yugoslav Partisans, and "second front" forces.

Added to the tangible assets of the inventory must be the equally valuable but less apparent, ones of damage to German morale and blows to German prestige.

It should be remembered that when the Fifth Army fought its way ashore in the bloody battles of the Salerno Gulf, the Wehrmacht was pretty much an undamaged force. To be sure, it had suffered losses in North Africa and in Sicily, and the Russian offensives had taken their toll, but picked troops were available in quantity. It was against the best German forces that the Fifth Army was pitted in its landings.

Within ten days of its landing, the Fifth Army was opposed by such German units as the 16th Panzer Division, Herman Goering Division, elements of the 1st and 3d Parachute Divisions, one regiment from the 15th Panzer Grenadier Division, one from the 29th, and all of the 26th Panzer Grenadier Division.

Securing a beachhead against that sort of opposition with two corps and a few Rangers and Commandos, was

no small accomplishment. With the beachhead firmly established, General Clark's forces fought their way through the mountain passes of the Sorrentine Peninsula to capture the battered, but badly needed, port of Naples. Farther inland, other Fifth Army units drove northward to seize important towns and key terrain features. On Fifth Army's right, the British Eighth Army moved up the eastern half of Italy roughly abreast of the Fifth, making a two army front that is still in effect.

By 12 October, Fifth Army was on the south bank of the Volturno River, a formidable barrier made more so by enemy field fortifications skillfully placed on the north bank. Thus, within thirty-three days, General Clark's men had landed against strong resistance, wrested successive strongholds from the enemy, and were now confronted with an attack on a river line.

Seasonal rains had set in by this time, and movement was made more difficult. In the mountains, mule trains and soldier-porterage had to be used for supply.

The Volturno was crossed in a coordinated two-corps attack, and in subsequent action, the Germans were driven back to what was ultimately their winter line, defenses which included the impregnable heights above Cassino. Fifth Army forces now included American, French, British, and Italian troops—a coalition calling for both skill and tact in handling.

Winter weather favored the Germans who, holding dominant heights protected by the Rapido and Liri Rivers in the valleys at the foot of the high ground, were able to improve their defenses. Demolitions, restricted road nets, and canalization by mountainous country had impeded pursuit.

In January, Fifth Army launched the Anzio operation, and for four months those beachhead forces withstood the mass attacks of armor and infantry employed by the Germans in costly and unsuccessful efforts to smash this threat at their west flank.

Regrouping during the winter months enabled the Fifth Army to open the all-out offensive of 11 May.

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Signal Corps Photo
Lt. Gen. Mark W. Clark, Commanding General, Fifth Army, with Secretary of the Navy James Forrestal inspecting Fifth Army units at Leghorn, Italy, 9 August 1944.



Signal Corps Photo
Fifth Army troops enter Rome. The burning tank is German, American tanks can be seen ahead of the running soldiers.

Operations of Mediterranean Air Forces

by Lieutenant General Ira C. Eaker, USA

Air Commander-in-Chief, Mediterranean



Lt. Gen. Eaker

ON a typical day in early August of this year, Allied airplanes based in the Mediterranean area executed the following operations — several hundred heavy bombers by day dropped more than a thousand tons of bombs on Ploesti; other heavy bombers by night made the 1,700 mile roundtrip flight from Italy to Warsaw to drop supplies to Polish patriots surrounded in the city; fighter bombers

strafed and bombed gun positions in Southern France in preparation for invasion; B-26s and B-25s cut bridges and strafed communication lines in the Po Valley; rocket-firing Beaufighters patrolled the Aegean and sank six caiques; a variety of transport aircraft carried supplies to Marshal Tito's forces in Yugoslavia and brought back several hundred partisan wounded; approximately 1,000 ships of every size in a dozen convoys were moving slowly toward Southern France—over each, Allied aircraft maintained constant patrol. All told, during that typical day's aerial offensive, we dispatched 3,006 airplanes against the enemy. They were flown by aircrews of no less than seven nations—America, Britain, France, Poland, Greece, Yugoslavia and Italy.

The organization linking these diverse operations and the many Allied units involved in them is the Mediterranean Allied Air Forces. It came into being in December, 1943, and is responsible for all aerial operations in the Mediterranean from Gibraltar all the way across to the Aegean. No other organization is quite like it, for in no other Theater are there so many national elements and so many types of air operations to be integrated in a single chain of command.

MAAF is a joint United States and British outfit so interwoven that there is teamwork between AAF and RAF commanders all the way down the line, but with each national component administered separately. Thus, the Strategic Air Force operating under MAAF is composed of the U. S. Fifteenth Air Force and RAF 205 Group. Since the Fifteenth is the larger of the two, the Strategic Commander is American, Major General Nathan F. Twining. In the Coastal Air Force under MAAF, however, the bulk of the force is British; hence the Air Officer Commanding is Air Vice Marshal Lloyd.

MAAF comprises the following major elements — Strategic Air

Force, Tactical Air Force, Coastal Air Force, Balkan Air Force, RAF Middle East, Army Air Force Engineer Command, Army Air Force Service Command, Mediterranean Allied Photo Reconnaissance Wing and Mediterranean Air Transport Service. Though American and British units predominate in all these commands, other national components are woven into the fabric in half a dozen places. Thus, elements of the Italian Air Force operate under the Coastal Air Force, while an ever-growing French Air Force operates as a part of our Tactical Air Force.

The two major components of MAAF are, of course, the Strategic and the Tactical Air Forces. Strategic Air Force, working in close liaison with RAF Bomber Command and the Eighth Air Force in England, between 1 January and 1 September 1944, dispatched 125,264 sorties and dropped 155,769 tons of bombs. Its targets ranged from rail yards in Southern France to aircraft factories in Germany and oil refineries in Poland and the Balkans. Probably it's most significant

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The Battleship Strasbourg and other French Warships in the harbor at Toulon after Lieutenant General Eaker's Mediterranean Allied Air Forces got through bombing the harbor.

Canada's Armed Forces Ready to Turn from Bea

Royal Canadian Navy

by Vice Admiral G. C. Jones, C.B.

Chief of the Naval Staff

Canadian A

by Lieutenant General J. C.

Chief of the Gener

I AM grateful for this opportunity of extending to Canada's allies and friends the warmest greetings of the personnel of Canada's Navy. The degree of co-operation which now prevails between the various

armed services of the United Nations reflects our complete unity of purpose.

Since war broke out the Canadian Navy has grown from a mere thirteen fighting ships to over three hundred and fifty, and from less

than two thousand personnel to over ninety thousand. From small beginnings it has become the third of the Allied fleets.

This growth has been accompanied by an expansion in the tasks assumed by the Canadian Naval Service as part of the Allied war effort. The United States Navy, the Royal Navy and the Royal Canadian Navy have co-operated together on the Atlantic, the Pacific and the Mediterranean; they have developed a highly efficient trade organization; they have together carried out much original research in the development of up-to-date weapons; and have co-ordinated their supply organizations for the common good.

As the Canadian Navy grew it was able to assume operational control of trade convoys in the North-west Atlantic. Early this year it assumed 100 per cent responsibility for the close escort of all trade convoys between North America and Great Britain. This means that, since that time, every American gun and tank sent in trade convoys

to Britain, Western Europe or Russia via the North Atlantic, has been protected by the Canadian Navy. Our success may be judged by the small losses of merchant shipping and by the number of U-boat kills and probable kills claimed by our escort vessels. The Corvette, which until recently formed the backbone of the Allied escort resources, is now being replaced by the faster and tougher Frigate which should bring even larger dividends. This service also provides a proportion of the roving "killer" groups which hunt the enemy on the open Atlantic.

When the Allies breached the European fortress, the Canadian Navy continued to fulfill these escort commitments and simultaneously provided over a hundred warships and some 10,000 personnel for invasion operations. Our contribution included not only convoy protection against U-boats, but also mine-sweeping, destroyer screens and offensive sweeps, anti-aircraft protection, landing ships and landing craft, and light patrol vessels. These ships accounted for a number of enemy surface craft and submarines.

As a further measure of co-operation, the Canadian Navy assists the Royal Navy by manning a number of their fighting ships.

After the defeat of Germany we are planning to play a worthy part in the defeat of Japan. To supplement our probable escort tasks in the Pacific, we are building up a striking force consisting of the latest cruisers and fleet destroyers, and we are considering the means whereby we may supply our own air cover.

The recent success of Allied arms has been largely the result of the understanding and wholehearted co-operation which exists between our forces. It is to be hoped that this co-operation will be carried forward into the peace.

THE year 1944 has given to the Canadian Army the long awaited opportunity of throwing its full resources against the enemy. Since Canada's declaration of war against Germany in September 1939 her Army has grown steadily in strength till today she has overseas more than 250,000 volunteers as well as the many units and establishments necessary in Canada for the training and servicing of her forces. Within three months of the outbreak of war Canada's First Division had arrived in the United Kingdom and in June 1940 part of the Division landed in France only to be withdrawn as the advance of the German armies and the collapse of the French made further defense impossible. Thereafter for three long years the Canadian forces stood guard against the possibility of a German invasion of Britain and steadily built up their strength and training, with only sporadic raids and reconnaissances in force such as Spitzbergen and Dieppe to give them a taste of action. Finally in July 1943 came the opportunity to take their place with the 8th British Army and their American Allies in the invasion of Sicily. This initial force was expanded to a corps which has fought its way with its comrades of the United Nations up the long length of Italy against the best that the enemy could put against it.

It was across the Beaches of Normandy, however, that the main body of the Canadian Army finally threw its full weight into the attack. While the Armies of the United States broke through from Cherbourg to St. Lo the Canadians, beside their British comrades, pinned down and finally overwhelmed the key points of Caen and Falaise and for the first time in history took their place in the field as an Army, under the command of Lieut. General H. D. G. Crerar, C.B., D.S.O. To that Army has fallen the task



Vice Adm. Jones

Beaten Germany to Drive Against Pacific Enemy

Canadian Army

General J. C. Murchie, C.B.E.

Chief of the General Staff

Royal Canadian Air Force

by Air Marshal Robert Leckie, CB., D.S.O., D.S.C., D.F.C.

Chief of the Air Staff

of clearing the northern flank of the great Allied advance across Europe, and Rouen, Boulogne, Calais and the Scheldt Estuary will all have their place in future Canadian battle honors.



Lt. Gen. Murchie

and all for one, than this fighting unit from the North American Continent. After the hardest kind of training it went from Kiska in the Aleutians to the bitter fighting of the Beachhead at Anzio and on through the Italian campaign to the landings in Southern France, winning the highest praise from the Commanders under whom it fought. Canadians are justly proud of their participation in this "Corps D'Elite" and all that it has achieved for the United Nations cause.

The Canadian Army looks forward confidently to the successful outcome of the war in Europe. There is unfinished business on the other side of the world in which, as her Prime Minister has said, Canada intends to do her full part. She has a score to settle with the Japanese for those heroic Canadians who fought gallantly to defend Hong Kong against heavy odds. The

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IN many respects, the trend of policy and activities of the Royal Canadian Air Force during the past year has been similar and, indeed, complementary to those of the United States Air Services. With the elimination of the immediate threat to our Pacific shore, in which task there was the closest and most cordial co-operation between the U.S.A.A.F. and the R.C.A.F., it became possible to strengthen still further our representation in the British-American air effort in the European theatre, both in support of strategical and tactical land operations and combating the U-boat threat to Allied sea communications in the Atlantic.

In any consideration or comparison of the contribution of the war effort of the R.C.A.F., it is essential to bear in mind that at the outset of this war Canada assumed the primary responsibility of training aircrew personnel (recruited in Canada, the United Kingdom, Australia and New Zealand) for operational service with the Royal Air Force, rather than the raising and dispatch overseas of distinctively Canadian squadrons. Hence, the situation as regards the European theatre is that our personnel overseas are under the operational control of the Royal Air Force. This is true of the more than 40 R.C.A.F. squadrons which have been organized from Canadian personnel overseas, as well as of the individual members of the R.C.A.F. serving with R.A.F. units in the various theatres. It may be noted in this connection, that while the 40 odd R.C.A.F. operational squadrons are manned almost entirely by R.C.A.F. personnel, approximately eight times as many members of the R.C.A.F. are serving in R.A.F. units.

From the standpoint of numbers of personnel engaged, the largest purely R.C.A.F. formation operating in the European theatre is the

Canadian Bomber Group ("Group," in British terminology, is equivalent to the American "Wing"). The R.C.A.F. Bomber Group is equipped with 4-engined Lancaster and Halifax Aircraft and until March of this year was engaged almost exclusively in attacks by night against strategic targets in Germany and the occupied countries and in the mining of enemy waters. More recently, however, these heavy bombers, designed and equipped primarily for night operations, and their crews trained accordingly, have been used in great numbers and with considerable success on tactical operations by daylight—emulating the pattern set by their allies of the United States Bomber forces. Not only have these R.C.A.F. daylight bombing attacks been directed against rocket gun emplacements and lines of communication, but they have also been effective (as in Normandy) against immediate objectives of Army front line troops and, as at Boulogne and Calais, in the neutralization of heavy gun emplacements.

Our fighter squadrons, the number of which is approximately equal to that of the bomber units, are mostly equipped with Spitfire Aircraft and prior to the invasion were largely employed on escorts to medium and light bombers — both American and British — offensive sweeps over occupied territory, and convoy patrols. Since "D" Day,

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Air Marshal Leckie

Submarines, Atlantic

by Rear Admiral Freeland A. Daubin, USN

Commander Submarines, Atlantic Fleet

I THINK it can be admitted now that some of us faced the submarine training program two years ago with more hope than confidence. The construction figures for new submarines, and the consequent needs for new personnel, were without any precedent in our naval history and even the most optimistic knew that we faced a big and a tough job.

The Secretary of the Navy has revealed that more than 100 new submarines have joined the fleet since December 1941. While that statement is significant and implies a great deal, it still falls short of giving a true measurement of the tremendous, tireless job done by a relatively small nucleus of submarine officers and submarine men. They have supplied the submarines, bases, and tenders in the Pacific with trained personnel, and they have commissioned and trained in the Atlantic (for war patrols in the Pacific) that "more than 100" new submarines.

Actually, the assignment for Submarines, Atlantic Fleet was three-fold. First we had to organize and control a scientific selection system for all new submarine officers and enlisted men, maintaining at any cost the volunteer characteristic of this duty.

In our job of pre-selecting submarine officers and men, we were blessed with talent and preparation of the finest kind, both in the small group of officers who have applied the mental and physical stethoscopes and in the large groups of excellent volunteers we have had to choose from.

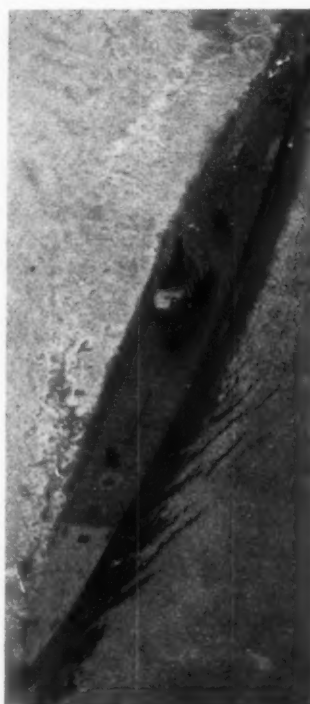
We know submarine duty makes special demands of an individual and requires certain very definite characteristics. By careful pre-selection we have endeavored to determine *in advance* if each candidate had those qualities, and the very low percentage of personnel failure in Pacific submarines is an index of this system's success. Without this pre-selection system, we would have needed a school twice as large and a course twice as long to produce the same number of qualified men.

As it has developed, however, our training time



Navy Photo

Since assuming his duties as Commander Submarines, Atlantic Fleet, Rear Admiral Daubin has given final inspection to every new submarine leaving the Atlantic area for the Pacific. The Admiral is shown taking that last step out of the sub's hatch, an exercise he's been used to since 1912 when Ensign Daubin went aboard his first submarine.



Navy Photo

A "fleet-type" submarine whose sisters have been plying the Pacific Ocean since 7 Dec. 1941.

for both officers and men has been cut to a fraction of its peacetime length. Although I cannot state figures here, it can be said that no new submarine has been delayed as much as one day or one hour by the lack of a trained officer or enlisted rating to man her. And this despite the fact that submarines, like every other U. S. weapon, have been produced with remarkable speed and in remarkable numbers.

Our second job was to train selected personnel, ashore and in operating submarines, to a degree at which they would be fully qualified to step aboard a newly-commissioned submarine on "shakedown," or even one on war patrol.

The shore training has centered in the submarine school which, of course, is many schools—the basic enlisted school, graduate courses in all the advanced specialties, officers school, and the command course. But the one I think we have the most pride in (and certainly the one that gets more after-hours visitors) is the latter, the command course which is more often called "attack."

Here the prospective commanding officers of new submarines are given concentrated training in the work of that one final moment, vital to the performance of every submarine. Here all effort focuses on that moment toward which our months and hours of training work are pointed,—the quick, explosive moment of attack.

The training at sea has required the operation of several types of boats and embraces the special task of readying many a new boat, its personnel and its machinery, for the Pacific. In pre-war days, a 6-month shakedown period was allowed; war-time permits no such length of time. Yet our demands for reliability are more severe than ever.

The third job of Submarines, Atlantic has been the rather paradoxical assignment of helping train certain units of our surface fleet in the Atlantic in their own important anti-submarine work.

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Air Force Atlantic Fleet

by Vice Admiral P. N. L. Bellinger, USN

ComAirLant

THE Commander Air Force, Atlantic Fleet, better known throughout the Navy by the short title of ComAirLant, functions directly under the Commander in Chief, U. S. Atlantic Fleet. His administrative offices are at the U. S. Naval Air Station, Norfolk, Virginia. The Air Force, Atlantic Fleet, with the short title of AirLant, includes or involves all aviation in the Atlantic with responsibilities ranging from command to logistic support.

The peculiar need for secrecy about our war against the German submarines forbids a complete description now of the part played by U. S. naval aircraft in that vital victory in the Atlantic. The enemy will get no help, however, if I describe here the naval aviation organization which helped defeat the U-boats and which has been given a vital role in our preparations for the final defeat of the Japanese.

In naval parlance, ComAirLant primarily is a Type Commander—an authority which farms out units to Area Commanders for their operational control on the Task Force principle. He must, however, be more than the normal type commander, exercising a much more intimate relationship than is necessary with surface vessels. This is required by the much greater degree of expendability of aircraft, the dependency of airplanes upon constant, minute logistics support, and the frequency with which airplanes must be modified and air tactics revised to meet the swiftly changing demands upon this newest of weapons.

For these reasons, ComAirLant follows closely all air operations in the Atlantic, noting success or failure of individual units and taking appropriate action to correct mistakes and to produce the best results. He provides for the periodic return of such units to AirLant at home bases for revitalizing and readying for future operations. All this demands extensive planning and a sizeable training, maintenance and inspection organization.

To assist in the conduct of AirLant activities, there have been established three major subordinate commands, namely:

(a) Commander, Fleet Air, Norfolk (ComFair-Norfolk) with administrative offices at the Naval Air Station, Norfolk, is charged primarily with the shake-down and readying of new aircraft carriers and the operational readiness of the escort carriers and their aircraft.

(b) Commander, Fleet Air, Quonset, (ComFair-



Dauntless dive bombers and Avenger torpedo planes huddle together on the snow covered deck of a U. S. Navy aircraft carrier in a North Atlantic port.

Quonset) with administrative offices at the Naval Air Station, Quonset Point, is charged primarily with the formation training and readiness of air groups for assignment to the new aircraft carriers.

(c) Commander Fleet Airships, Atlantic, (ComFairShipsLant), with administrative offices at the Naval Air Station, Lakehurst, is charged with all matters relating to the administration, organization and training of lighter-than-air units in the Atlantic Fleet.

In general, the task of the AirLant organization is to form, equip, maintain, and administer the aviation units; to solve the many problems of support; in effect to keep the weapons of aviation tempered and sharp while they are being wielded by the operational commanders.

In one sense of the word, some of Naval Aviation's part in the war in the Pacific may well be considered as beginning in the Atlantic. The various aircraft carriers built on the Atlantic Coast and destined for the Pacific, come under the AirLant organizations for shaking-down and readying for their new assignments. The air groups comprising the aircraft based on these carriers, are formed and begin their training long before the carrier is commissioned, so that by the time the carrier is ready to receive its air group and proceed on her shake-down, the ship and her planes have reached such a degree of proficiency that both are ready to begin advanced training as a team. During this shakedown in the Atlantic the carrier and her air group are welded into a fighting team. When a carrier leaves for the Pacific, the team is as ready to proceed to its battle station in the War Zone as the period of shake-down has permitted. In addition, the AirLant

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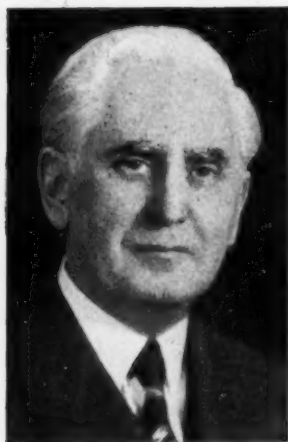
Vice Adm. Bellinger

War on The Economic Front

by Leo T. Crowley

Foreign Economic Administrator

WITH the creation of the Foreign Economic Administration in September 1943, there was achieved an effective consolidation of almost all of this government's economic warfare and foreign supply operations.



Leo T. Crowley

The fundamental purpose of all these operations is to strengthen the military effort of the United States and the other United Nations, to weaken our enemies, and thus to hasten final victory. In performing its functions the Foreign Economic Administration has worked in close collaboration with the armed services, other United States government agencies and with American war industry.

Through lend-lease and export controls our allies have been supplied with the quantities of weapons and other supplies they needed to supplement their own resources for use in the fight against the common enemy. Through reverse lend-lease our allies in turn have supplied our fighting men abroad with everything they had available that we needed.

Through our foreign procurement and development operations we have secured from mines and forests and farms all over the free world the strategic materials that the United States had to get from abroad for the manufacture of weapons and other war supplies.

We have at the same time undertaken to keep strategic materials from being smuggled or traded into the hands of the enemy. And we have obtained and analyzed information direct from inside the enemy's lines which our Air Forces

have used in planning the bombing offensives that have smashed German and Japanese factories, railroads, shipyards and supply centers.

It cannot be emphasized too strongly that these programs are vital to our war effort. We have not provided lend-lease supplies and services valued at over \$28,000,000,000 to please our allies. We have lend-leased tanks, planes, guns and ships, war production materials and food for one purpose only—to be used by our allies against our enemies. In fact, the ultimate recipients of lend-lease supplies are not our allies, but the Germans and the Japanese whom our allies are able to kill or capture and defeat with the help of these supplies.

Almost all of our lend-lease aid is furnished to our fighting partners. Total expenditures for lend-lease are about 15 percent of all that the United States has spent for defense and war purposes. Out of each war dollar 85 cents has been spent for supplies and services used by our own forces in defense of the United States and toward winning the war; and 15 cents has been spent for supplies and services used by our allies toward winning the same war and therefore used equally in the interests of our own security.

We have not spent money on strategic materials in Latin America out of generosity to other countries. We have bought abroad those goods which have been desperately scarce and absolutely essential to our war production. And we have bought these supplies for our war industry and our armed forces at prices generally far lower than in the last war, and this despite the fact that the readily available supply has generally been less, and the need far greater.

Axis conquests, for instance, cut us off from 90% of the world's natural rubber; all of our manila fiber essential for marine cordage; 95% of our quinine, needed to combat malaria; 75% of our tin; 60% of our rotenone, the valuable insecticide; and important quantities of vegetable fats and oils and many

other strategic commodities.

The men in the front lines, the men at battle stations around the world have been getting the arms they need to conquer the Axis from United States war production. The tremendous war production achieved by this country has depended, in turn, to an important extent on the raw materials the Foreign Economic Administration, working with private importers, has been able to procure from overseas.

There is hardly an implement of war or an important industrial article contributing to the prosecution of the war which does not include some metal or mineral which is obtained partly or wholly from foreign sources under our foreign procurement programs.

Quartz crystals are used in the walky-talky sets that American infantrymen carry with them into battle. Virtually all of our quartz crystals have been brought in from Brazil.

Our warships, our planes, and our anti-aircraft defenses all depend on radar detection devices. Effectiveness of radar in turn depends on tantalum, the rare metal used in electronic tubes. All of our tantalum has been procured from outside the United States. These are but two examples.

In addition to metals and minerals, there are hundreds of other critical materials which the Foreign Economic Administration has been responsible for procuring. Cinchona bark is the source of quinine, and we have had to fall back on the wild jungles and mountainsides of Latin America for virtually all of our new supply. We have secured enough quinine for many millions of anti-malarial treatments. How important this is to our armed forces may be judged by the fact that on some fronts malaria has caused more casualties than all other factors combined, including enemy action. Increased supplies of quinine combined with synthetic drugs are now cutting down these malaria casualties.

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Inter-American Cooperation

by Nelson A. Rockefeller

Coordinator of Inter-American Affairs

THE most convincing demonstration of the common interests of the American republics, of the practical results of inter-American cooperation, has come during history's greatest war.



Nelson A. Rockefeller

At the Rio de Janeiro Meeting of American Foreign Ministers in January, 1942, the American republics set in motion an historic plan of hemisphere mobilization. The immense resources of the New World, material and human, were dedicated to the task of crushing the

Axis menace to their freedom and independence.

During the years since Japan's attack on Pearl Harbor we have seen fulfillment of these pledges. Brazil, Mexico and ten other New World nations joined the United States and the United Nations in the war against the Axis aggressors. All the others severed diplomatic relations with Germany and Japan.

Strategic and all-essential hemisphere naval and air bases, like those on Brazil's bulge and Ecuador's Galapagos Islands, were opened to United States use and played a key role in the successful prosecution of the war in the hemisphere waters and overseas.

The armed forces of Brazil, Mexico, Cuba, Chile, Colombia, and Peru, teamed up with North American forces in blasting Hitler's U-boat menace and contributing to the great Allied victory in the Battle of the Atlantic.

The Brazilian Expeditionary Force in Italy, the first contingent of South American troops ever to

enter a combat zone overseas, marched shoulder to shoulder with General Mark Clark's Allied Fifth Army.

Mica for detection apparatus, quartz crystals for radio lifelines of communication, balsa wood for bombers, rubber for tanks and planes, fibers for ships' ropes, copper for munitions and nitrates for explosives—these were a few of many war materials which the other Americas supplied to the United States for the great Allied production effort.

This war has added something new to the ideal of Pan American solidarity—maturity. Never before had the foundations of Western Hemisphere civilization been so gravely threatened. And never before had the Americas met the great challenge so swiftly, resolutely and successfully.

But inter-American cooperation faces its sternest test and its biggest opportunity in the days of the peace to come. There still remain formidable problems which can only be solved by increasing cooperation among all the peoples of the hemisphere.

Through successive decades there has been important progress toward fulfillment of Simon Bolivar's century-old dream of a strong Pan American unity. The past eleven years have witnessed a singular consolidation of those gains under the Good Neighbor Policy.

As peace approaches, the job of the Americas is to bend their vast energies and resources to the colossal task of bringing peacetime equilibrium to themselves and to a war-torn world.

Dr. Ezequiel Padilla, Mexico's brilliant Foreign Minister, has ably stated the postwar role of the New World in these words:

"Among the world's best hopes for a lasting peace," he said, "the best, the most dependable and the most positive will be the material resources, the planning ability and the social thinking represented by the union of the peoples of the Americas."

We in the Western Hemisphere stand on the threshold of unlimited opportunity. War's horrible devastation has not visited our lands. Our great agricultural areas and machines of production are not only intact, but have expanded mightily under the spur of war needs.

The wartime cooperation of the Americas has indeed been important. But our postwar horizons are even broader. Inter-American cooperation can reach new heights of achievement in the progress and welfare of the peoples of the New World.

In solving the great postwar problems of reconversion to peacetime economies, we cannot rest on past achievements. We cannot rely upon momentum to carry us through the transition period. We must together devise new formulas for new situations.

Fortunately, the Americas already have made a good start in hemisphere postwar plans. At the First Conference of Commissions of Inter-American Development, held in New York City last May, representatives of business and government from the American republics laid the broad foundations for postwar inter-American economic collaboration.

The conference's resolutions looked ahead to the steady increase in inter-American trade and commerce, reduction of trade barriers, financing industrialization in undeveloped regions, prevention of inflation, improvement of sea, air and land transportation, development of hydroelectric resources, diversification of agriculture and extension of social security legislation.

The peoples of the Americas have worked together to conquer the gravest threat to their free existence—the ruthless aggressors from across the oceans. The hemisphere organization for peace and friendship which the American family of nations has achieved has established a pattern for the world, for the cooperative action evidenced during the wartime years is a promise of achievement.

The South Atlantic Campaign

by Vice Admiral Jonas H. Ingram, USN

*Commander, South Atlantic Force**

WHEN, in the year preceding Pearl Harbor, the Navy began neutrality patrols, it fell to me to establish the one for the South Atlantic. My original command, Cruiser Division Two, was soon expanded to Task Force

Three, and then became, successively, Task Force Twenty-three, the South Atlantic Force, and finally the *Fourth Fleet*, its present designation.

These patrols were begun in April, 1941, and covered

the triangle formed by Trinidad, the Cape Verdes Islands, and the hump of Brazil, but the continent of South America was not visited until 10 May 1941, when this Force put into Recife, Brazil.

At about this time the U. S. Naval Observers began reporting in the leading cities of Northern Brazil, specifically in Recife, Bahia, Natal, and Belem, with others to come later. These men greatly aided us with our supply problems ashore.

During the preliminary stages, our task was to make friends with the Brazilians, to teach them to trust us, and to enlist their aid in supplying our needs. It was slow work at first, but we met with eventual success far beyond our expectations. The diplomatic side of this story affords me as much satisfaction as does the military part.

The period before Pearl Harbor was in general one of training for my officers and men, but during this

time we did capture the *Odenwald*, a German Blockade Runner, homeward bound from Japan, despite efforts by her crew to scuttle the ship, and we took her into San Juan.

When the United States entered the war, the force was expanded considerably, and we set about moving the convoys with a minimum loss, which was done.

Brazil had advanced almost to the status of an Ally even before she declared war, but it was not until submarine attacks on her shipping in August, 1942, that Brazil declared war on Germany and Italy. An interview I had with President Getulio Vargas early in 1942 resulted in a friendship between us that has ripened into the closest co-operation between the Armed Forces of the United States and Brazil, and shortly after declaring war, the Brazilians placed their Navy and Air Force under my operational command.

The Headquarters for this force was established ashore in Recife to facilitate communications, and Rear Admiral O. M. Read took command of the heavier units afloat as Commander of Cruiser Division Two. Captain (now Commodore) C. E. Braine came ashore with me as my Chief of Staff, and the first of our land-based aircraft reported, with more to come, until we had a sufficiency of LR, VLR, AND LTA Aircraft.

We had a session with surface blockade runners at the beginning of 1944. We destroyed three of these in as many days, which is often referred to as the SoLant "Triple Play."

The shore establishments expanded rapidly during this time. Recife, as headquarters, always remained the largest, but adequate facilities were developed at Belem, Natal, and Bahia, in addition to numerous airplane and blimp bases. These bases extend from Amapa, 250 miles northwest of Belem, to Santa Cruz, south of Rio de Janeiro. Most of the bases had relatively undeveloped

airfields before the war, but were expanded greatly and improved due to U. S. Army and Navy activities. Other land establishments under the Fourth Fleet include the Training and Rehabilitation Center at Tejipto, and the nearby Fourth Fleet Farm of 150 acres, which raises all of certain types of food consumed by Naval forces within an area of 100 miles—without cost to the Navy.

We have had many problems, to which the solutions did not at first appear, and we have had to solve them on the spot in unorthodox ways due to the 5,000 miles separating us from our refineries and factories, the inadequacy of bottoms to handle our shipping, and also at first because of the non-belligerent status of the country in which we were operating.

Typical of one such problem was that of getting our Marines based ashore in Brazil. This involved some compromising with local authorities who did not take kindly to the idea, but who were eventually won over. After the declaration of war, three provisional companies of U. S. Marines afforded the sole security for most of the airfields and other shore establishments. At the present time most of our facilities have Units of the Brazilian Army affording security, which Units were being trained during the regime of the Marines in Brazil.

Our greatest problem during the early days was the shortage of fuel oil for our ships. This problem was eventually solved, but not without many anxious moments.

A secondary objective of the Fourth Fleet since its beginning has been the operational training of selected Brazilian Naval and Air Force personnel in order to raise their standards of efficiency to the high level required by modern warfare. This has been accomplished without a hitch.

In summary, I should like to stress these points: Our convoys have always moved on schedule, and while some inevitable losses oc-

(Continued on page 144)



Adm. Ingram

*On 15 Nov. 1944 Vice Adm. Ingram was assigned as Commander-in-Chief Atlantic Fleet, with rank of Admiral. Rear Adm. William R. Munroe, USN, was made Commander Fourth Fleet with rank of Vice Admiral.

United States Army Forces in the Middle East

by Major General Benjamin F. Giles, USA

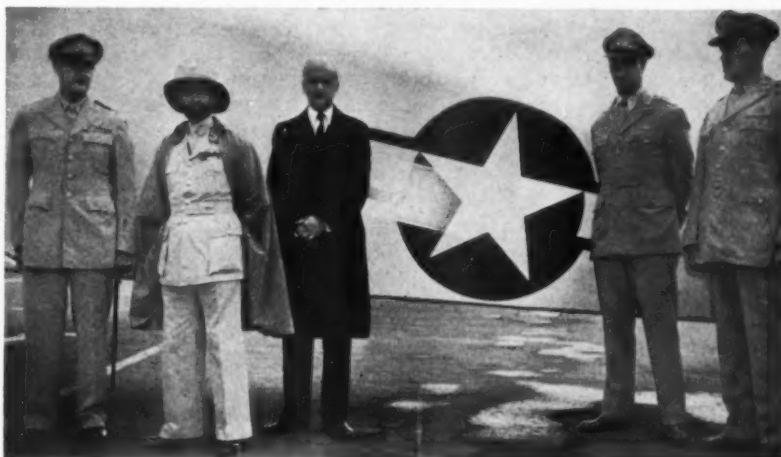
Commanding General, U. S. Army Forces in the Middle East

THE history of this huge, sprawling theater began, in the midst of an ever-expanding program of co-operation with our Allies, with the creation of the United States Military North African Mission, better known as the Maxwell Mission. A handful of men, armed with nothing more than tools and machinery, had the back-breaking task of refitting, maintaining, and supplying the British forces with a huge quantity of U. S. Lend-Lease tanks, vehicles, aircraft, and railroad rolling stock to replace those which had been exhausted on the blistering North African desert against a highly successful and rapidly advancing German army.

Existing railroads were developed, vital ports which handled the tremendous amount of shipping being rushed to this desperate fighting front were expanded, roads were hastily built and improved, and warehouses and assembly plants sprang up to shelter the massed material. Loaded with supplies, ship after ship, plane after plane poured into the Middle East from the United States.

At the time when things looked blackest, with Rommel's Afrika Korps crashing resolutely towards Suez in pursuit of the desperately rallying British, the scope of the Maxwell Mission had become so enlarged that it was redesignated as a theater of operations — United States Army Forces in the Middle East. Its primary functions were support of the Ninth U. S. Air Force, all possible aid to British technical services within the Eighth Army, and the rapid completion and manning of British support bases. This aid enabled the war-wracked British Eighth Army, together with the spirited RAF and gallant Ninth Air Force, to halt the Germans at critical El Alamein and harass Rommel's already extended supply lines, eventually forcing a general retreat.

Ever since, the Command has spared no effort to further the spirit of cooperation fostered in those trying days. USAFIME maintains and stresses close liaison between U. S.



Presentation of Lend-Lease Airplane to Ethiopia, left to right—Major General Giles, His Majesty, Emperor Haile Selassie, Mr. Caldwell, American Minister to Ethiopia, Lt. Col. Harlow Allen, head of Air Section, USAFIME, Major Gordon Ickes, Aide to General Giles.

Forces and our Allies here. The old helpful friendliness has been enhanced by years of working together for one ultimate goal — to utterly vanquish a stubborn Fascist foe. Here is a theater where Reverse Lend-Lease is equally as common as Lend-Lease.

USAFIME is an active participant in a program being carried out by the Middle East Supply Center to minimize the demands of Middle Eastern countries for shipping, while at the same time promoting a lean but healthy civilian economy. Ships, loaded to the gunwales with vital war supplies, simply could not be diverted to carry much-needed civilian foodstuffs and other staples and so other, closer sources for these supplies had to be and were found. A system of rationing out shipping space and allocation of all classes of war and civilian merchandise through the medium of a gigantic pool was devised and is functioning successfully.

With the closing of the operational phase late in '43, and the switch of Ninth Air Force operations to Italy, the scope of reciprocal aid and Lend-Lease activities became somewhat changed. At present the work in the Lend-Lease field may be broadly classed in two categories:

First, regularizing and reporting of all Lend-Lease and reciprocal aid transactions within the theater, and the establishment of procedures for handling transactions with Allied governments; and

Secondly, dealings with British GHQ of the Middle East Forces in regard to the disposition of the vast stores of supplies held in the Middle East by the British and American Armies.

Allied and friendly governments with which Lend-Lease and reciprocal aid relations have been maintained here in addition to Great Britain include France, Greece, Ethiopia, Belgium, Liberia, Yugoslavia, Egypt, Union of South Africa and Saudi Arabia.

The primary function of one of the General Staff sections of USAFIME is the coordination of these activities.

Developments and expansion of Central African air lanes was begun in the summer of 1941 by Pan-American Airways. Pan-American did a fine pioneering job. It established air bases, trained men for the necessary jobs of operating them and coaxed sluggish natives to work in the broiling sun on many construction projects.

In the fall of '42, the Pan-American
(Continued on page 144)

The Caribbean Defense Command

by Lieutenant General George H. Brett, USA

Commanding General, Caribbean Defense Command and Panama Canal Department

DURING the third year of American participation in World War II, the Caribbean Defense Command performed a dual function, continuing to carry out successfully its primary mission of



Lt. Gen. Brett

protecting the vital Panama Canal installations, and also advancing the friendly relationships of the United States with the countries of Latin America.

More military tonnage passed through the

Canal during the past year than during any previous twelve months of its history. Its strategic importance in global warfare cannot be underestimated.

After the successful campaign of United Nations forces in North Africa a year ago, the diminishing danger of invasion across the South Atlantic made possible a reduction of military personnel in Caribbean Defense Command, permitting transfer of resulting surpluses to other theaters of operations, including zones of active combat. Virtual elimination of the submarine menace had been achieved by close coordination of our air and ground forces, working in complete unity with the Navy.

Patrols of the Sixth Air Force and the Naval forces of the Panama Sea Frontier synchronized their efforts in the air and on the sea to

establish a ring of protection over a wide radius, covering hundreds of thousands of square miles. On the ground, the Mobile Force and the Coast Artillery Command supported the air force and the Navy. The Mobile Force provided security troops for outlying bases and continued to guard the locks and waterways of the canal, being especially effective in their vigilance against sabotage. Patrols have constantly combed jungle areas over a large expanse of territory, while other troops maintained observation posts at strategic points along the coast lines. Coast Artillery Command's anti-aircraft and harbor defense batteries kept their unending watch in the Canal Zone on secluded hilltops and at remote jungle positions, tracking and challenging aircraft, and permitting only those properly

(Continued on page 158)

The Caribbean Sea Frontier

by Vice Admiral Robert C. Giffen, USN

Commandant, Tenth Naval District and Commander Caribbean Sea Frontier

THERE was little activity in Puerto Rico in World War I. In the present war, however, the situation has been far different. With the establishment of the Tenth Naval District with headquarters

at San Juan in January, 1940, Puerto Rico assumed the key role in the battle of the Caribbean.

Some idea of the importance of the Caribbean could be gathered from the famous "destroyer deal." In September, 1940,

President Roosevelt revealed to Congress and to the world that for 50 over-age destroyers sent to hard-pressed Britain we had been granted in return 99-year leases on eight Atlantic outposts.

The fact that seven of these new sites were within the Caribbean area and within the geographical boundaries of the Tenth Naval District showed the importance attached to this sector by our military authorities.

As the United States moved nearer to war, the Tenth Naval District in July, 1941, was designated as the Caribbean Naval Coastal Frontier—a sign that if war came this would be a combat area. In March, 1942, the name was changed to the Caribbean Sea Frontier. As the German conquest spread over Europe, reaching down into Africa and threatening the great French port of Dakar, the Caribbean area rose rapidly into prominence as the

first line of defense for the Atlantic entrance to the Panama Canal. For the past two and one-half years the Caribbean bases have been and are still like an insurmountable wall

(Continued on page 154)



Vice Adm. Giffen



Navy Photo

One Nazi sub that will not prowls the seas again. Struck by bombs from a Navy plane, she settles by the stern.

Service Force, U. S. Atlantic Fleet

by Vice Adm. Alex. Sharp, USN

Commander, Service Force, U. S. Atlantic Fleet

LOGISTIC support of the U. S. Atlantic Fleet and advanced bases in Europe, South America, the Mediterranean, Iceland, and the Caribbean through the changing period of stepped up warfare during past year have required careful planning and coordination of agencies and activities within and without the Force. It has brought ever increasing problems.

For example one year ago, with more ships, the African theatre only required logistic support from this Force in the form of ammunition, general stores, and replacement of personnel. The Army fed our naval forces in that area, and the Army-Navy Petroleum Board arranged for fuel. As the theatre of action progressed through Sicily and into Italy, the Service Force was requested to enlarge its commitments in the Mediterranean by provisioning naval forces afloat in that area. At the same time the tempo of the Pacific required dispatching two refrigerator ships and two fleet oilers. These commitments were fully met, though it required revamping and tightening of the schedule. The schedules finally became so tight that it was necessary for all Atlantic bases to carry four months' supply of provisions, in the event a provision ship could not meet its schedule.

These logistic requirements continued to grow in 1944 with activities in the European area ever increasing, resulting in the Service Force provisioning all ships of the U. S. Atlantic Fleet in that area. As the allies moved on to new bases, everything from guns and ammunition to beer and movies moved in right behind them. Shortage of Service Force ships later necessitated the temporary transfer of two cargo ships from Naval Transportation Service. These ships were fitted out as supply issue ships in record time by the Norfolk Navy Yard.

Many groups of small craft were readied for the invasion of France which included material check-ups, check-ups of supplies and equipment, and training for personnel. Engines, guns, radar, fire fighting equipment, fueling at sea gear, towing gear and other material requirements together with salvage and emergency repair methods were examined and deficiencies corrected.

Foreign friendly men of war in the Atlantic Coast ports were assisted in preparing for distant areas, as were our own Naval vessels of other forces.



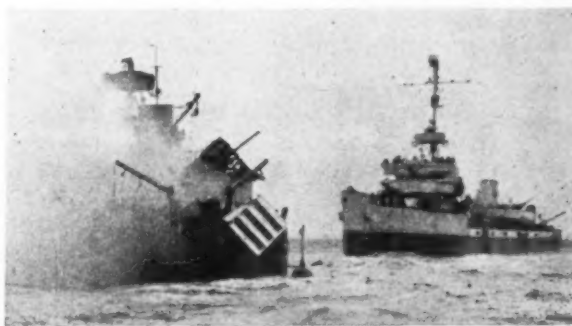
Vice Adm. Sharp

Notwithstanding the detachment of several auxiliaries to Service Force, Pacific, the tempo of the war in Europe has brought an increase in the number of the many diverse types of ships to this force and the problem of maintaining them in a ready-for-action material condition has increased, necessitating more and more check-ups and follow-through on the deficiencies found. The material condition of all sea going auxiliaries, new and old, leaving the Atlantic for other areas have been of as much moment to this force as those remaining in it. Examples of this material check-up are the preparation of tugs for trans-Atlantic towing and new Fleet oilers and other auxiliaries going to the Pacific. The readying of a large flotilla of tugs for mass towing across the Atlantic included material check-up of ship and machinery including towing gear, check-up of supplies and stores, check-up of navigational information, charts, notices to mariners and publications, check-up of the training of personnel by actual exercises, and other careful planning. Despite rough seas, the tows arrived in first-class condition. For ships going to the Pacific, every effort has been exerted to have them arrive on the distant station ready for duty.

For security reasons the number of ships of this force sailing in convoys to combat zones throughout the world cannot be enumerated, but it may be stated that there were more than a few. Each of these ships, in addition to the material condition, was checked as to navigation gear, charts, and information. Briefings have been given to the captains whenever it has been necessary.

There has been an earnest endeavor to inculcate throughout the Service Force a spirit of rendering every possible service to combatant ships and to perform every job in an outstanding manner. The lowly tug, lacking in glamour, but always ready and willing to do its utmost is an example of this spirit. Service Force tugs have made many rescues and towed a num-

(Continued on page 150)



Rescue work and the towing of combat vessels from theaters of operations to repair points are some of the war tasks of Service Force, Atlantic Fleet. Above photo shows, left, the U.S.S. Tide, damaged in the invasion of Normandy.

Advances In Aircraft Design

by Rear Admiral Dewitt C. Ramsey, USN

Chief, Bureau of Aeronautics

NAVAL aircraft designers today are giving serious thought to many vital design problems of the future. They have successfully achieved their immediate goal of producing naval combat aircraft which will outfly, outperform and outshoot the best planes the enemy has sent against us. Now they can look beyond our immediate requirements and give more attention to the development of jet propulsion, rockets, and more deadly, yet safer, aircraft of tomorrow.

Every major combatant in the present war possesses planes whose maximum speeds approach or exceed 400 miles per hour. Jet propelled planes, such as those encountered by Allied airmen over Germany, are reported to fly already at more than 500 miles per hour, and aircraft designers say that the day when a plane will plummet through the air at 750 miles per hour—the speed of sound—cannot be far away.

What will happen to a plane when it attains sonic velocity is a subject of widespread debate among scientists and aeronautical engineers. So far, it has been impossible to prove their theories because wind tunnels tend to “choke down” and to yield erroneous information when attempts are made to simulate flight conditions at these speeds. Thus, the only means of determining accurately the flying qualities of planes as they approach sonic velocity is to flight test planes equipped with instruments to record their reactions at these speeds. Such tests are even now projected.

Many competent engineers and designers believe that jet propelled planes will be the first to approach sonic velocity in level flight. The Navy's aircraft engineers naturally are exploring the possibilities of jet propulsion for the plane of the future. Research into this means of locomotion lends support to the contention of the adage that “there is nothing new under the sun,” for jet propulsion was one of the earliest mechanical ideas.

The first jet propelled machine recorded by historians was the “*Aeolipile*” demonstrated by Hero, the Alexandrian philosopher, at about the beginning of the Christian era. Hero employed steam jets hissing from a spherical container to make the sphere revolve. Sir Isaac Newton, the English astronomer and mathematician who propounded the laws of gravitation, was another to experiment with jet propulsion. He built a car in 1680 whose motive power was to be a steam jet.

Attempts to adapt thermal jet reaction to aircraft propulsion dates back to 1909; but for three decades experiments were unsuccessful. It wasn't until 1940,

or thereabouts, according to available data, that a jet propelled plane was built that would fly. Until after the war, at least, credit for building the first successful jet-propelled plane must go to Italy. The Nazis probably were the first to put a jet propelled plane into combat. Of the Nazis' jet propelled devices, the robot bombs have become the best known.

The Navy has been able to make rapid strides in the practical employment of the jet principle, especially in “booster” devices for assisting heavily loaded planes in taking off. Not only do these rocket boosters help get planes into the air, but they shorten take-off runs considerably. Thus, they are of great value to the Navy because the load potentials of its carrier craft are increased substantially.

A modification of the jet principle is employed to add several miles per hour to the speed of one of the Navy's most famous fighters, the Grumman Hellcat. The Hellcat's exhaust is marshalled into a single outlet to serve a dual purpose. The exhaust gases produce a jet effect, adding several miles per hour to the speed. In addition, this jet causes a vacuum just behind the cowl and thus draws more cooling air past the cylinders. In the first five months of 1944 Hellcats are credited with knocking 444 Japanese planes from the skies and with destroying 323 on the ground. During the battle for the Marianas our Hellcats shot down 360 additional Jap planes in one day while losing only 22.

Almost every dispatch from the Pacific tells of new exploits by Navy planes that gladden the hearts of the designers. Now making aerial history are the Curtiss Helldivers, the largest, fastest, and most formidable carrier-based dive bombers in current operation; the Corsairs, fast-flying gull-winged fighters which can fight on equal footing with any land based plane and mast-head bomb with deadly accuracy; the Catalinas, oldest and most famous patrol boats in operation, and the “Black Cats” which prow and pounce on Jap night shipping; the Avengers, the world's best carrier-based torpedo planes, which carry torpedoes or bombs

(Continued on page 144)



Rear Adm. Ramsey



Navy Photo

Four 330-horsepower jet units put this Navy Avenger, the “world's best carrier based torpedo plane,” into the air in less than half its normal take-off run. Jet units contain a solid propellant which includes oxygen, and are ignited by electrically-controlled plugs.

**CHART-
SECOND BATTLE
of the PHILIPPINES**

JAPANESE
1 AIRCRAFT CARRIER
3 LIGHT AIRCRAFT CARRIERS
2 HEAVY CARRIERS
BATTLESHIPS
3 HEAVY CRUISERS
1 LIGHT CRUISER
10 DESTROYERS

CARRIERS
3RD FLEET

JAPANESE
4 BATTLESHIPS
2 HEAVY CRUISERS
1 LIGHT CRUISER
13 DESTROYERS

JAPANESE
0750-0824 / 25
(5 LIGHT AIRCRAFT CARRIERS)
1 BATTLESHIP

JAPANESE
3 ESCORT AIRCRAFT CARRIER GROUPS

JAPANESE
3 BATTLESHIPS
1 HEAVY CRUISER
1 LIGHT CRUISER
10 DESTROYERS

JAPANESE
2 BATTLESHIPS
2 HEAVY CRUISERS
2 LIGHT CRUISERS
13 DESTROYERS

7TH FLEET
BATTLESHIP-CARRIER FORCE

CHINA

TAIWAN
(FORMOSA)

CHINA SEA

MANILA

CEBU

ILOILO

BORENO

MINORCA

1944

PACIFIC OCEAN



PACIFIC OCEAN

- FLEET & AIR ATTACKS ON PARAMUSHIRU AND SHUMUSHI IN KURILES
- B-29 SUPER FORTRESS ATTACK THE JAP MAINLAND
- CARRIER AIRCRAFT ATTACK RYUKYU 8-OCT-44
- CARRIER AIRCRAFT HIT FORMOSA 13 OCT-44
- CARRIER AIRCRAFT HIT LUZON 10-OCT-44
- 1ST BATTLE OF THE PHILIPPINES 19-JUNE-44
- 2ND BATTLE OF THE PHILIPPINES 28-27 OCT-44
- SALVIN ISLAND IN WESTERN CHINA OCCUPIED - 20-11-43 - SEPT-45
- LANDING ON ANGAI 16-SEPT-44
- LANDING ON GAMBAYO 6-OCT-44
- LANDING ON PULUH 19-SEPT-44
- LANDING ON SAIPAN 15-JUNE-44
- LANDING ON GUAM 21-JULY-44
- TRIKE ATOMIC BOMBING 16-FEBRUARY'S SURGE
- LANDING ON IOWA/ALAIN 1-FEB-44
- LANDING ON KARAKURA
- WAKE I.
- MARSHALS
- AD SHIMA IN VOLCANIC AND HAWA SHIMA IN BONINS HEAVILY ATTACKED BY CARRIER AIRCRAFT 4-JULY-44
- MARCUS I.

AS OF NOV. 5, 1944

SHADED AREA - FIRES LANDINGS IN FRANCE

① - AMERICAN 7 ARMY ② - AMERICAN 3RD ARMY
③ - AMERICAN 1ST ARMY ④ - BRITISH 2ND ARMY
⑤ - AMERICAN 5TH ARMY ⑥ - U.S. 3RD ARMY



Guardian of the Isthmian Approaches

by Brigadier General Edgar P. Sorensen, USA

Commanding General, U. S. Sixth AAF

THE Sixth Air Force defends the world's greatest transportation bottleneck—the Panama Canal—a slender thread of communication which possesses immeasurable strategic importance, a fact which undoubtedly is recognized by our enemies.

As climactic 1944 grinds to a close, the importance of the Canal once again ascends to the zenith, comparable to its status immediately following Pearl Harbor.

The defeat of Germany will be followed by the greatest transport project in all history, as the United Nations shift the tremendous weight of their attack into the Pacific.

In handling the bulk of this herculean movement of men and materiel, the Panama Canal is destined to play its most historic role.

The Canal must be kept open.



Photo by U. S. Sixth Air Force
Brigadier General Sorensen at the controls of a C-45. General Sorensen is rated Command Pilot, Balloon Pilot, Combat Observer, Aerial Observer and Balloon Observer.

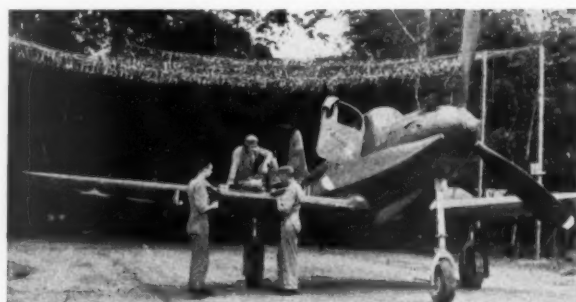


Photo by U. S. Sixth Air Force

Strategically scattered on the Isthmus of Panama, fighter squadrons stand by ready to spring into action from their jungle lairs within minutes after receiving a flash message from the Fighter Command control officer. Maj. Walter E. Modesitt, Commanding Officer of a Sixth Air Force Fighter squadron (on wing) gives instructions to his ship's crew chief.

That is the mission of the Sixth Air Force. Our every move during 1944, as during previous years, has been directed to that end.

The aircraft carrier changed the entire defense pattern of the Canal which, from the viewpoint of land and sea operations, has been for many years well-nigh impregnable.

As Tokyo was bombed, so too might Gatun Locks.

(Continued on page 146)

Newfoundland—"First Base"

by Major General John B. Brooks, USA

Commanding General, Newfoundland Base Command

THE U. S. Army "got to first base" almost eleven months before the declarations of war. First base, overseas, was Newfoundland.

When war broke out in Europe in 1939, our easternmost installations were in New England. To the northeast, whence would come any attack from European powers, stretched the long, lightly defended coasts of New Brunswick and Nova Scotia, the Gulf of St. Lawrence with its many strategic islands, and the large areas of Newfoundland and Labrador commanding not only the St. Lawrence but Hudson Strait.

Placing Army and Navy bases more than 800 miles east and 400 miles north of Cape Cod served notice on the Axis



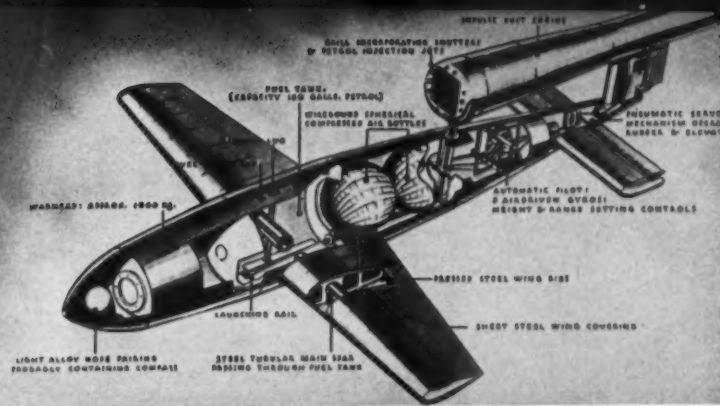
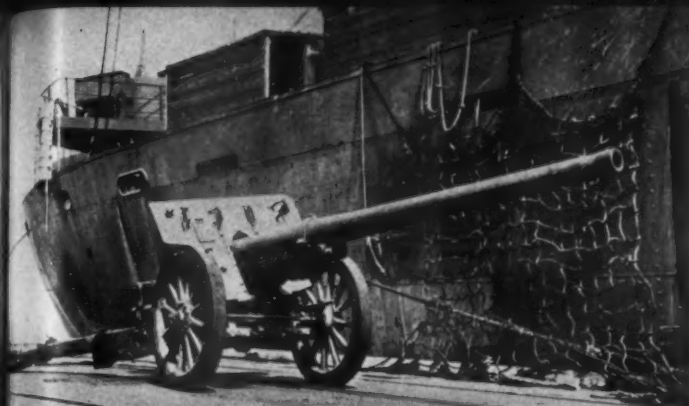
Maj. Gen. Brooks

powers that the United States could provide defense in depth for its own territory, and also assure air and naval cover for huge movements of convoys to Europe.

As soon as leasehold agreements for a period of 99 years were concluded with Britain, the Third Infantry and other units under Colonel Maurice D. Welty arrived on the old German liner Amerika, taken in 1917 and rechristened Edmund B. Alexander. Personnel lived on the transport and under canvas while permanent posts were constructed near St. John's and Argentia, and a series of outposts placed along more than 300 miles of rocky coastline full of bays, fjords, small rivers and coves.

From a slumbrous existence on the edge of the North Atlantic shipping lanes, Newfoundland awoke to find herself the center of the vital defense arc which has its points at Greenland and Bermuda. Contrary to general impression, Newfoundland and Labrador are not part of Canada, but have been fought over hard in past centuries by the British, French and Dutch, before assuming the independent status of a British dominion.

(Continued on page 146)



Enemy Weapons.—Upper left, Captured Japanese artillery at San Francisco enroute to Aberdeen Proving Ground, Md., for study. (Signal Corps Photo). Upper right, Sectional drawing of the V-1 flying bomb Germany used in large quantities against England (British Official Photo). Lower left, Closeup of a Japanese 75mm. anti-aircraft gun taken by U. S. Marines at Saipan. (Marine Corps Photo). Lower center, A German field piece captured near Verdun is converted for our use against the Nazis near Metz. (Signal Corps Photo). Lower right, German rocket captured in the Mediterranean area. (Signal Corps Photo).

The Antilles Department

by Major General E. F. Harding, USA

Commanding General, Antilles Department

CONTINUING Allied successes on active war fronts have steadily diminished the possibility of attack upon the supremely important Panama Canal. But the Antilles Department, whose bases stand athwart the eastern approach to the waterway, will remain strategically valuable as long as suicidal enemy subterfuges at the Canal are remotely possible. War bases of the Caribbean, commanded from the hub of the Antilles at

Puerto Rico, will remain vital strongholds even after the war ends.

While substantial air and ground installations have been maintained in the Department this year, emphasis has shifted from tactical operations to the training of large numbers of Puerto Rican soldiers as replacements in the Caribbean Defense Command and throughout the world.

With the beginning of the induction to secure these Puerto Rican replacements there arose the problem of teaching basic military subjects to large groups of men who understand almost no spoken or written English. To meet this unique situation a Special Training Center was established in Puerto Rico through which pass ninety-five percent of Puerto Rican inductees—all but five percent of the 1,500 men a month who are called to service on the island. At the STC men go

through a 12-week concentrated course after which they are expected to know sufficient English to understand the English command of basic military training. Upon this foundation of rudimentary English the troops form a continually enlarging vocabulary and understanding of the language.

Progress of some soldiers has been so rapid they have completed the course in eight weeks; others take longer than the required time. Nearly all Puerto Rican troops have been eager to accept this additional Army training offered by 200 officers and enlisted men, mostly former civilian teachers, who had been sent from the United States for this assignment.

Upon graduation from the STC and completion of basic training, troops move into permanent units. Many are absorbed by the Security

(Continued on page 142)



Maj. Gen. Harding

The Pacific Ocean Areas

by Lt. Gen. Robert C. Richardson, Jr., USA

Commanding General, U. S. Army Forces, Pacific Ocean Area

THE over-all functions of the Pacific Ocean Areas command are three-fold: to DEFEND the Hawaiian Islands and the West Coast of the United States; to press the ATTACK against the Japanese empire; and, to carry out an adequate TRAINING program in the accomplishment of the defensive and offensive missions of the command.

Although the possibility of an attack in force on the Hawaiian Islands has become steadily less imminent since the Japs were hurled back at Midway, the defenses of Hawaii have been strengthened to such an extent it is improbable the enemy would risk the tremendous cost involved in attempting an invasion of our great Pacific fortress and naval base. But, until the main body of the Japanese fleet, and the bulk of the Japanese army have been destroyed, the Hawaiian Islands must be considered open to suicidal air raids and possibly to commando strikes for the purpose of committing acts of sabotage. The nearer our forces come to the main islands of Japan, the more likely is it that her military and naval high command might consider the value of a retaliating strike at America's most strategic stronghold.

To the end that Hawaii be held at all costs, a twenty-four hour vigil is maintained throughout the islands, and it ill behooves the enemy to attempt a violation of these skies again. The immediate responsibility for the defense of Hawaii, as well as the administration of the affairs of the Central Pacific zone of communications, rests with the Central Pacific Base Command.

Similarly, the South Pacific Base Command has assumed defense and administrative duties in its respective area. Both the CPBC and the SPBC were established July-August 1944, and function as integral parts of the United States Army Forces, Pacific Ocean Areas. It is anticipated that other base commands may be set up as the active theater of operations moves westward toward the China coast and Japanese home islands.

Offensive operations in the Central Pacific, insofar as Army ground troops are concerned, began with the conquest of the Gilbert Islands in November 1943. Elements of the 27th Infantry Division captured Makin Island, while Marines took Tarawa, thus completing the first major invasion of Japanese held bases in the Mandate Islands. The Gilberts, mandated to Great Britain, fell to Imperial Japanese forces early in the Pacific war, and had undergone extensive fortification by the Japs. The Ellice Islands, lying to the southwest of the Gilberts, were occupied by American forces prior to the invasion of the Gilberts, and together the two chains of coral atolls gave us an important foothold for operations against the Marshall Islands, which followed early in 1944.

The Pacific pattern had become recognized by the time American infantrymen and Marines seized the vital Marshall bases at Kwajalein and Eniwetok. Stra-



Signal Corps Photo

Lt. Gen. Richardson, Jr., visited Saipan in the Marianas Islands shortly after the invasion of the island by the 27th Infantry Division and two U. S. Marine Corps divisions. Halting on the inspection tour in Garapan, chief city of the island, the commanding general was pictured with, left, Brig. Gen. Roy E. Blount, commander of the Army Port and Service Command of the POA, and Maj. Gen. George W. Griner, 27th Division commander.

tegic bombing by land based medium and heavy bombers of the 7th AAF; followed by tactical strikes from carrier based planes of the Navy; broadside naval shelling and bombardment by units of the Pacific Fleet; and climaxed by highly trained assault troops storming the beaches, if possible under the protection of their own artillery on adjacent islands of an atoll, is giving the Japs the Americans' answer to Pearl Harbor on island after island. The Japanese recognize the Pacific pattern all too well, as their mounting toll reveals.

The 7th Infantry Division, which received its baptism of fire in the Aleutians when the Japs were driven from Attu and fled from Kiska, met and destroyed their enemy again on Kwajalein in February 1944. Foot soldiers of the 7th were among the first Americans in the Pacific to receive the newly authorized Combat Infantryman's Badge. The Division shared nobly in establishing the record of taking the Marshall Islands bases from the Japanese at a cost of one American for every twenty-eight Japs killed. The Pacific pattern, successfully tried in the Gilberts, worked with greater perfection in the Marshalls, where United States forces took their first bite out of Japan's prewar empire.

It is only natural that arm-chair strategists at home should cast an eye on Truk, the much publicized, some-

(Continued on page 140)

Building for a Decisive Pacific Victory

by Admiral Chester W. Nimitz, USN

Commander in Chief, U. S. Pacific Fleet and Pacific Ocean Areas

WHAT has been accomplished by the forces assigned to the Pacific Fleet in the Pacific Ocean Area during the past year is a firm foundation on which to continue the building of a decisive victory. With all forces of the American Army, Navy, Marines and Coast Guard — land, sea and air — and alongside our allies, we have expanded our domination more than 3,000 miles through the Central Pacific islands toward the Japanese homeland. Enemy losses have aggregated about 175,000 men dead or isolated on islands without hope of supply and reinforcement, nearly 1,000 important ships sunk or damaged, and an estimated 6,000 planes destroyed. When we consider that these results have been accomplished in addition to the great gains made by General MacArthur, we can realize how difficult is the lot of the Japanese. His lifelines that traverse the oceans between his homeland and his stolen empire have been made perilous, indeed.

What is being accomplished now is the building of a long and strong chain of bases. Over a wide area of the vast Pacific, continual assaults go on, wresting from the Japanese their ill-gotten island bases. There is the inevitable conversion of these places into "springboards" from which our advance continues westward.



Adm. Nimitz

The necessary preparation is under way.

We have to accomplish in the not-too-distant future the final preparations for victory. Firstly, we must sharply restrict the enemy's capacity to supply and service his fighting forces; secondly, we must place our combat teams where they may best destroy his military machine. The task is great. The months ahead demand of all of us the utmost of our determination and persistence to make the final grasp for the victory already within reach. How soon we shall seize it depends on our will to continue unswervingly to work, to sacrifice and to fight.



Remains of buildings erected by the Japanese on Pacific Island captured by American forces.



General unloading scene on Saipan beachhead at low tide. The bulldozers in foreground are towing trucks up the steep roadway they have constructed. On the low coral flats several LCMs have been caught high and dry by the receding tide. Men are seen rolling fuel drums toward shore. In the hazy distance are many ships of the vast convoy as they unload their equipment and supplies. Photo was made by U. S. Army 1st Air Force.

From Tarawa To Tinian

by Rear Admiral Harry W. Hill, USN

Commander, Group Two, Amphibious Forces, U. S. Pacific Fleet

SINCE its formation in September, 1943, Group Two, Amphibious Forces, Pacific, has been most fortunate in its combat assignments in the Central Pacific operations.

These are as follows:

Gilberts Campaign — Tarawa, November 20-23, 1943; Apamama, November 27, 1943.

Marshalls Campaign — Majuro, January 21, 1944; Eniwetok, February 17-22, 1944.

Marianas Campaign — Saipan, June 15-July 9, 1944; Tinian, July 24-August 1, 1944.

The first of these operations has been too well related in the epic of the Second Marine Division at Tarawa to require further description here.

Immediately following the fall of Betio Island, Tarawa, orders were received to capture Apamama Atoll, about 70 miles southeast of Tarawa, for development as an additional air base. It was taken without a fight, its twenty-odd defenders having elected to commit hari-kiri on the morning of our arrival.

Majuro was also occupied without opposition on 31 January 1944, and here the U. S. Flag was hoisted for the first time over pre-war Japanese territory.

A few days following the occupation of this fine fleet anchorage, and the concurrent successful assault on Kwajalein and Roi-Namur, it was decided to proceed

with the assault on Eniwetok Atoll, and this task was assigned to Group Two.

Assault troops designated were the 22nd Marine Regiment and two battalions of the 106th Infantry Regiment, plus attached units. The attack force entered Eniwetok lagoon 17 February, and five days later had completed the reduction of the Jap-held islands of Engebi, Eniwetok and Parry, and the occupation of the remaining islands of the atoll.

For the Saipan operation, Commander Group Two, in addition to duties as second in command to Vice Admiral Turner, was designated Commander Western Landing Force, and assigned the Second and Fourth Marine Divisions with attached units as assault troops. The landing was successfully accomplished on 15 June 1944. Determined Jap opposition was encountered and the 27th Infantry Division was landed in support commencing 16 June. After more than three weeks of bitter fighting, Saipan was secured on 9 July, with known enemy losses of more than 25,000 troops.

Following the successful completion of Saipan operations, Group Two was assigned the task of capturing Tinian, three miles to the south, and the primary Jap air base in the Marianas. On 24 July the Fourth Marine Division landed successfully, followed by the Second Marine Division, on small narrow beaches at the northwest tip of the island where the Jap defenders had not expected them. In a whirlwind campaign these veteran troops got the Japs on the run and kept them on the run, moving so fast that they were unable to reorient their defenses, and on 1 August the capture of the island was completed. More than 6,000 Jap troops were killed with a loss of less than 300 Marines.

The result of these operations has been to move our advanced bases some 3,000 miles nearer to the heart of Japan. From these areas our aircraft now patrol the waters practically to the Japanese mainland. This westward movement, however, has brought its diffi-

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Rear Adm. Hill



Landing at Engebi, in the Marshall Islands, February 18, 1944. Note battleships at top moving in to cover the landing craft.

Navy Photo

Battlefronts of the Pacific

by Lieutenant General Millard F. Harmon, USA

Commanding, Army Air Forces, Pacific Ocean Areas, and Deputy Commander Twentieth Air Force

SECURING the Palau-Marianas line of operations in the Central and South Pacific in little more than two years after the Japanese tidal wave had been slowed to a stop is a military achievement of a very high order. It is one which has been notable for its "insurmountable" difficulties, the bitterness of its fighting under conditions in which some people believed Americans could not survive, and for the development — for the first time in our history on a major scale — of a closely knit, smoothly functioning land-sea-air operations, under unified and integrated Navy, Army, and Marine commands, without which our early victories over Japanese forces might instead have been serious and discouraging defeats.



Lt. Gen. Harmon

Few people yet realize that the Battle of the Coral Sea in May 1942, which slowed the enemy on his smashing march to the South Coast of New Guinea and Australia, and the Battle of Midway two months later which checked his plan to seize Hawaii, were the prime factors making our position in the Pacific tenable. And it was not until our ground troops succeeded in driving the Japanese out of Guadalcanal some months later that we could say that the enemy had really been stopped.

These three actions in our first desperate year of the war were the initial steps on which our present successes have been based, for had the Japs succeeded in their plan to push south through and from the Solomons, General MacArthur's supply lines would have been cut and Australia for all practical purposes would then have been as isolated from us as Truk, the Carolines, Rabaul and New Britain, and the starving Jap garrisons in New Guinea are from Japan.

In the Pacific Ocean strategy of that period, the triangular bastion of Fiji, Espiritu Santo, and New Caledonia, was second in importance only to Hawaii, and upon the security of these two foundation stones rested the arch supporting our communications to New Zealand and Australia. Because this strategic arch was vigorously defended and held secure, the younger generation of our country can well look forward to the possibility of a lifetime unmarred by participation in war in the Pacific.

Guadalcanal was to mark the assumption of the offensive. South Pacific forces, commanded by Vice Admiral Ghormley, undertook its capture and consolidation. Supported by Naval forces, including carriers, and by Army B-17s based in the New Hebrides,

the First Marine Division seized the Guadalcanal-Tulagi area and secured Henderson Field. Upon assumption of command of the South Pacific Force by Admiral William F. Halsey, my position was that of Commanding General of Army Ground and Air forces in the area. On assumption by the Army of responsibility of operations on Guadalcanal, Admiral Halsey directed that the elimination of the Jap therefrom should be expedited. A vigorous offensive was initiated in which the 25th Army Division distinguished itself by a succession of rapid enveloping actions around the Jap southern flank. His forces were soon completely decimated and rapidly eliminated from Guadalcanal. It was during this offensive action that the superiority of our artillery over that of the Japanese was so markedly and outstandingly demonstrated. This superiority of artillery, contributing so much to the success of all our operations, was a notable feature of success.

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7th AAF Photo

The great Jap bastion Truk, sometimes referred to as the Gibraltar of the Pacific, was rendered practically useless to the enemy by the continued pounding of the 7th AAF Liberators. This unusual picture shows the Truk atoll spread out beneath a formation of 7th AAF Liberators.

The North Pacific Front

by Major General Davenport Johnson, USA

Commanding General, Eleventh Air Force

ONCE the enemy had been cleaned out of the Aleutians, the North Pacific operation entered a new phase. In this phase the primary mission of the air force became that of reconnaissance, of keeping an incessant watch on Japanese activities in the Kurile islands.



Maj. Gen. Johnson

The Kuriles had first served the purpose of launching and supplying the Japanese invasion of the Aleutians. But the enemy had always been fully aware of the fact that his island chain also offered a route along which an attack might be made against him and pressed home to the heart of the Empire. Long before Pearl Harbor, this possibility had been taken into account and the Japanese Army and Navy boards of strategy had dotted airfields, army staging bases, naval stations and strong coast

defenses along the Kuriles from Hokkaido to the end of the Chain at Shimushu, just across the narrow strait from Russia's Kamchatka Peninsula. These elaborate and skillfully integrated military works were installed to guard the enemy's northern flank.

What the enemy was up to among these various ground, air and naval bases in the Kuriles now became a matter of continuous concern. Was he massing troops and transport for another try at invasion? Was he building new airfields? Were his aircraft of the types that could bring our Aleutian bases under attack? What naval units were at anchor in his harbors? The job of our airmen was to get this information.

After a period of special training in night flying, December 1943 saw Catalinas heading toward the Kuriles to obtain photographs of the enemy installations and drop as great a weight of bombs as could be carried on extreme-range missions. Due to the prevailing cloud cover over the Kuriles, getting good photographs was a difficult assignment but occasionally our aircraft would meet favorable conditions and bring back invaluable intelligence.

Liberator and Ventura bombers later replaced Catalinas as the Kurile mission aircraft. Loaded down with GP and Photoflash bombs, their crews took them over the targets throughout the winter of 1943-44. The curtain of secrecy was lifted from one after another of the Jap air, ground and naval bases on the islands of Paramushiru and Shimushu. Matsuwa, Onnekotan and the other islands of the central Kuriles were not to be brought under observation until later.



ARMY AIR FORCE PHOTO
A plane of the 11th Air Force flies over the Jap airfield at Kurabu Cape, Paramushiru, which has been bombed by our forces.

With spring came slightly improved flying conditions and more of our aircraft were able to cover the enemy targets both by day and night. In addition to the photographic and bombing missions carried out by Venturas and Liberators over the Kuriles, our Mitchells conducted offensive sweeps against Japanese shipping with excellent results.

The enemy has been intensively at work strengthening and expanding his old positions and constructing new installations of various types. His garrisons are steadily being augmented, more islands are being fortified. In certain respects his defenses may be regarded as formidable but experience in other theatres has demonstrated that they are not impregnable.

For the present, operations continue in the same general pattern of striking the enemy with bombs and machine gun fire wherever he is to be found within the range of our aircraft, afloat, ashore or in the air. But our primary mission, never lost sight of, is to keep the Jap and his Kurile activities under constant surveillance.

U. S. North Pacific Force Strikes at Approaches to Japanese Empire

by Vice Admiral Frank Jack Fletcher, U. S. Navy
Commander North Pacific Force

AT the outset of the war, the northern Kurile islands of Shimushu and Paramushiro played key roles in Japan's grandiose offensive schemes. They probably figured in the staging of the two abortive carrier-based plane attacks made on Dutch Harbor in June, 1942. It is very likely that the same islands acted as supply bases for the garrisons the enemy established on Attu and Kiska immediately following the Dutch Harbor attacks, and it is to these islands that the enemy withdrew his garrison from Kiska in the summer of 1943 after the annihilation of his forces on Attu in May of the same year had made the position untenable.

The expulsion of the Japanese from their Aleutian bases, in conjunction with their setbacks in other Pacific theatres, enabled the initiative to pass to the Americans with the result that the situation in the northern Pacific theatre now is just the reverse of what it was at the time of Dutch Harbor. Our North Pacific garrisons were then on the defensive; short of men and equipment, and uncertain as to where the Japanese would strike. Today, the Japanese are on the defensive, uncertain as to where we will strike and knowing that when we do, it will be with force and power that they cannot match.

It would be a grave mistake, however, to assume that the Japanese will not bitterly resist any attempt to pierce their northern flank. Paramushiro and Shimushu, guarding the northern entrance to the Sea of Okhotsk, have been converted into strong defensive bastions, liberally supplied with airfields, aircraft and defensive weapons of all descriptions. The narrow strait separating the two islands is the principal Kurile anchorage for Japan's northern fleet.

Approximately 300 miles to the south, the Japanese have established a formidable air base on the central Kurile island of Matsuwa and garrisoned islands on either flank. Equally formidable bases have been established in the southern Kuriles and on Hokkaido,

the northernmost island of Japan proper. In brief, the Japanese are digging in throughout the northern approaches to their Empire.

We have not been idle either. Our naval bases at Kodiak and Dutch Harbor, established before the war, have been developed to meet the requirements of the North Pacific Force. Farther west, we have taken advantage of one of the

greatest Japanese oversights of this conflict and transformed Adak from a bleak, uninhabited island into a powerful military establishment with an excellent harbor and airfields.

From these bases our air and sea power has already cast a shadow over the northern and central Kuriles. During the eight-month period of 1 January to 1 September, inclusive, many successful bombing missions were flown by medium and heavy bombers. Each mission involved a round trip of between 1,500 and 2,000 miles, depending on the target locations, flown in what is considered to be the worst flying weather in the world. Pilots and crews know if they are forced down, they have no chance for survival.

Augmented by anti-shipping, weather and patrol sorties, these missions have accomplished three important objectives: Harassed the enemy and forced him to divert to the north supplies urgently needed in other theatres; damaged and destroyed his ground installations, aircraft and ships; and provided us with information of his installations.

During the same January-September period, surface units of the North Pacific Force steamed far into enemy-held waters to bombard Japanese shore installations on three occasions. The Kurabu Zaki Airfield on the southern tip of Paramushiro was shelled twice and the Matsuwa airfield once. These task force strikes were made with the knowledge that the Japanese had a large concentration of both single and twin-engine land-based aircraft in the area, and were carried out without loss or damage to our ships or injury to personnel.

At the time of writing, it is worthy of note that the Japanese have made no retaliatory attacks, either air or surface, on our Aleutian bases. Theirs appears to be solely a defensive role. Ours is not.



Vice Adm. Fletcher



Enemy trawler-type picket boat under strafing attack by a Navy Ventura in waters near Paramushiro Strait.



Guam—The northern landing beach when troops of the 3d Marine Division made this initial bloody foothold. Just off beach are landing craft disembarking cargo at edge of reef. Further offshore lay the naval gunfire support ships and transports.

Pacific Amphibious Operations

by Lieutenant General Holland M. Smith, USMC

Commanding General, Fleet Marine Force, Pacific

AMPHIBIOUS operations in the Central Pacific campaign began with the invasion of the GILBERT Islands in November 1943. In that operation the V Amphibious Corps consisting of the 2d Marine Division, elements of the 27th Infantry Division, U. S. Army, and supporting Corps troops comprised the landing force, which was a part of the Joint Expeditionary Force. Naval gunfire and air support was furnished by the naval elements of the force on a scale never before witnessed in operations of this nature. The atolls of Tarawa, Apamama and Makin were captured after fierce fighting, particularly at Tarawa, which island had been built by the Japanese into a heavily manned island fortress. The captured atolls were speedily converted into air and naval bases to support further operations.

The next phase of the campaign, early in February 1944, began with the invasion of Kwajalein Atoll in the Marshall Islands. This brilliantly planned

and executed attack struck at the heart of the Japanese outer defenses. The V Amphibious Corps again furnished the landing force, this time consisting of the 4th Marine Division and the 7th Infantry Division, U. S. Army, with supporting Corps troops. This landing force behind a tremendous naval gunfire and air bombardment seized the well defended islands of Roi-Namur and Kwajalein and then completed seizure of the entire atoll, at the same time occupying Majuro in the outer Marshalls.

The seizure of Kwajalein Atoll

was immediately followed by the attack on Eniwetok Atoll, also in the inner Marshalls, 371 miles northwest of Kwajalein. Tactical Group One of the V Amphibious Corps constituted the Eniwetok Landing Force. It was made up of the 22d Marine Regiment and the 106th Infantry Regiment, U. S. Army, and supporting troops. After five days of hard fighting against stubborn Japanese resistance Eniwetok Atoll was secured.

The capture of Kwajalein, Eniwetok and Majuro Atolls provided our forces with advanced naval and air bases from which to support further advances to the westward and also neutralized the strong Japanese bases in the outer Marshalls at Wotje, Maloe-lap, Mille and Jaluit.

The next step in the overall campaign was the attack on the Marianas, involving the capture of Saipan, Guam and Tinian, which began with the attack on the island of Saipan on 15 June 1944. The Marianas Operation differed considerably from previous operations against atolls in that it required the capture of mountainous islands of considerable size, involving not only the landing and seizure of a beachhead, but extensive operations inland over rugged terrain ideally suited for the Japanese type of fanatical defense. The landing forces for this operation consisted of the V Amphibious Corps made up of Corps troops and 2d Marine Division, 4th Marine Division and the 27th Infantry Division, U. S. Army, and the III Amphibious Corps consisting of Corps troops, the 3d Marine Division, 1st Provisional Marine Brigade and the 77th Infantry Division, U. S. Army, all under the overall command of the Commanding General, Expeditionary Troops.

After 25 days of fierce fighting over rugged terrain which the Japanese defended to the death, Saipan was secured by the V Amphibious Corps. On 21 July 1944, the III Amphibious Corps landed on Guam and after overcoming stubborn enemy resistance secured that island and completed the liberation of the native population in 20 days. On 24 July the V Amphibious Corps landed on Tinian and in a brilliant operation secured that Japanese island after nine days of fighting.

Seizure of the strategic islands in the Marianas, (Continued on page 142)



Two leaders of the Marianas campaign. Left, Admiral Raymond A. Spruance, commander attack force, and Lieutenant General Holland M. Smith, commander, expeditionary troops.

The Recapture of Guam

by Major General Roy S. Geiger, USMC

Commanding General, III Amphibious Corps

ON July 21, 1944, the Third Amphibious Corps landed on the beaches of GUAM in the second phase of the Marianas campaign. A new amphibious command, which grew out of a veteran South Pacific fighting force—the First Marine Amphibious Corps—the Third Amphibious Corps was in action for the first time under its new name.

Amphibious Corps in the Pacific have been “fluid” commands, tactically organized for specific missions, with their component units often varying from campaign to campaign. The Third Amphibious Corps was typical, combining Army, Navy, Marines and Seabees in one tactical command for the GUAM operation. The background of the Corps included a major share of the Solomon Islands Campaign, from Guadalcanal to Bougainville; and direction of one phase of the Bismarck Archipelago Campaign. On Guam, the newly-designated command was committed to a new theater of operations, a new pattern of tactics; the enemy, however, was the same. And the troops of the Corps had humbled him before.

The invasion was preceded by a preliminary and methodical softening of the objective. This consisted of a combined naval and air bombardment over a period of 14 days, employing warships, rocket ships, bombing planes and strafing planes which hammered the enemy positions. Emphasis was placed upon the destruction of coastal defenses, anti-aircraft defenses, centers of communications, and the immediate landing beaches. Two separated beach areas were selected for the landings; the assault troops going ashore in the early daylight behind a powerful, coordinated naval and air bombardment.



At a Saipan command post: left to right, Brig. Gen. Peter Del Valle, Maj. Gen. Roy S. Geiger, Lt. Col. J. R. Lanigan, and Col. L. R. Jones.



Navy Photo

U. S. Marines advancing behind a tank on Guam. Marine photographer divided his time between taking pictures and shooting Japs. He accounted for four enemy soldiers.

For the assault, the Corps employed battle-wise units, the Third Marine Division and the First Provisional Marine Brigade. The bulk of troops in the Third Marine Division were veterans of Bougainville, the highly-successful operation where the “perimeter” strategy — the neutralization of an entire island by seizing and holding a small section thereof—was employed. Comprising the First Provisional Marine Brigade were the Fourth Marine Regiment and the Twenty-second Marine Regiment. The recently organized Fourth Marines had combined the four veteran Marine Raider Battalions into one regiment; the Twenty-second Marines had made an enviable record in the Eniwetok Atoll fighting.

The Guam operation, however, introduced new features which the Marine units had not experienced previously. Guam was neither a small atoll like Eniwetok nor was it completely jungle as were New Georgia and Bougainville. At the same time it combined the features of both—wide fringing coral reefs and dense jungle terrain—with rugged, mountainous areas, filled with both natural and artificial caves, and flat table lands, both interspersed with open areas. A few improved roads reached the more accessible parts of the island. This varied terrain, over a fairly large land mass, required the employment of varied tactics.

The two landings on Guam—one at Asán, below Agaña, and the other some six miles farther south at Agat Bay—were markedly successful in dividing the Jap forces. Once the heights overlooking the Southern Beaches (Agat Bay) were secured, part of the 77th Army Division, a fresh but highly trained unit in combat for the first time, was landed and moved in to relieve the Marine units in the Mt. Alifan sector.

On the Northern Beaches, the advance of the Third Marine Division had been opposed by large enemy forces, strongly entrenched on high ground. The enemy launched several counter-attacks, once in force with some 3,000 troops, but the attacking troops in all instances were hurled back or annihilated. On its right flank the Third Marine Division had pushed down to

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The Seven League 7th

by Major General Robert W. Douglass, Jr., USA

Commanding General of the 7th Army Air Force

THE pilot of a 7th AAF heavy bomber circled a Jap-held coral atoll in the Central Pacific. His target, on this blackest night he'd ever flown, was a certain point on the enemy runway. The Japanese were so shy of American bombs that they wouldn't even fire at him—ack-ack flashes would reveal their positions.

The pilot turned back as if departing, then circled and headed for what he thought was the Jap runway. He boldly flicked on his landing lights and the Japanese, thinking it was one of their own planes coming in, turned on the runway lights. The island formed a perfectly illuminated backdrop for one of the most impressive "entrances" of the war, an appearance which brought the rumbling applause of bombs bursting squarely on the target.

This amazing bit of ingenuity and courage is an example of means sometimes necessary to complete an assignment in the Central Pacific, a theater of 16 million square miles, or five times the area of the United States. Here navigation must be perfect, for targets are specific points on pinpoint coral atolls and tiny islands. Frequently all the land that shows above the water is smaller than factory area targets in Germany.

Typical of the kind of precision bombing demanded of men of the 7th AAF, was the assignment on a mission over Rongelap, an enemy radio station in a building only 35 by 125 feet. Planes went in at 8,500 feet and dropped their bombs squarely on the building.

Just how important this type of precision bombing can be was demonstrated in our invasion of the Marshall Islands last 31

January. Pinpoint bombing made it possible for a huge Naval task force to move undetected to invasion beaches without attack by a single enemy plane. Most of the enemy aircraft was caught on the ground.

The great Central Pacific offensive, which began last November, has evolved into a definite pattern—one that has given seven league boots to the "island hopping" plan.

While we were loosing fragmentation bombs on Saipan in support of our invading American troops,

our heavy bombers were still pounding Truk and we were flying reconnaissance missions against future objectives. A never ending routine of missions, reconnaissance, bombing, softening-up and final capture is part of the pattern.

One of the most important phases of this successful campaign has been air operations which made it possible to by-pass many enemy strongholds. When amphibious forces invaded the Marianas it was estimated that 200,000 Jap troops were trapped or isolated on scattered Pacific islands. A complete air blockade had been maintained by air force bombardment of Mille, Jaluit, Wotje and Maloelap in the Marshalls.

Truk and Ponape in the Carolines have been neutralized in the same manner by steady poundings. Truk, once the dreaded "Gibraltar of the Pacific," and a flanking threat to American advances and supply routes in the battle toward the China coast, was hammered with more than 800 tons of bombs to assure its isolation during the Marianas campaign. Now, it is formidable only up to the amount of air power the enemy is willing to sacrifice.

In the Central Pacific we fly the longest regular bombing missions in the world. One bombing raid was more than 2,700 miles and the average has been four times the distance from London to Berlin.

In April of 1944, bombers of the 7th AAF flew the longest shuttle missions in history. From bases in the Marshalls they attacked Guam in the Marianas, flew on to bases in the Admiralties, refueled, loaded up with more bombs almost immediately and bombed enemy bases in the Carolines on the way back to their Marshalls bases. The total distance was nearly 4,000 statute miles.

Fighter pilots of the 7th AAF have had few chances to meet the enemy because of the long range of our operations. Whenever they have met the Jap they have driven him, beaten, from the air. Working in co-operation with Mitchell bombers they destroyed 10 and probably destroyed three Jap fighters near Maloelap during three minutes of combat, the only encounter of its kind in the Marshalls and Gilberts campaigns.

Flying day and night in the Marianas they kept the Jap aircraft away from Saipan after Naval carrier planes had destroyed nearly all of them and driven the rest from the area. There was no effective Jap attack after the first week of the invasion.

(Continued on page 138)



General Douglass



7th AAF Photo

Iwo Jima, in the Volcano islands only 650 miles from the Japanese homeland, has been a recent target of the 7th AAF Liberators.

ComAirForward

by Major General Willis H. Hale, USA

Commander Shore Based Air Forces, Forward Area, Central Pacific

THROUGHOUT the campaigns for the Gilbert, Marshall and Marianas Islands the shore-based aircraft of the Army, Navy and Marines has operated as a team since November 1943. On 1 May 1944, Admiral Nimitz announced the creation of a headquarters designated as that of the Commander Shore Based Air Force, Forward Area, Central Pacific, with the short title of ComAirForward.

ComAirForward was given the task of integrating the activities of Army heavy and medium bombers, fighters, reconnaissance and transport planes with the Navy's shore-based bombers, search and reconnaissance planes, rescue service and the Marine fighters, dive bombers, torpedo bombers and transports. A combined staff of officers from all three Services who were fully skilled in all aspects of this aerial war in the Central Pacific was assembled to implement ComAirForward headquarters.

With no overlapping commands but with the destructive force of the combined air power, the bypassed islands in the Gilberts and Marshalls were sealed off from the Japanese homeland with no possible recourse to new materiel and no ability to strike at our holdings in these atoll groups. B-24's relentlessly pounded Truk, Ponape and other Micronesian Islands. Helpless islands such as Nauru felt the needle-like sting of the low-flying B-25's. Navy and Marine dive and torpedo bombers struck repeatedly at these battered by-passed islands. The air and the waters of that part of the Central Pacific were safe in order that naval and air forces might push westward toward Japan.

While this neutralizing program was being carried out, reconnaissance and search missions were in progress over a wide area. Transports were carrying essential materiel and passengers back and forth across the Pacific in preparation for new operations in the Carolines and Marianas. A forward air transport service was organized known as TAG, short title for Transport Air Group, consisting of Army and Marine transport planes.

Soon shuttle missions were being carried out under the direction of ComAirForward, reconnaissance and bombing missions which took Army and Navy bombers from the Marshalls, over the Marianas, where vital pre-invasion photographs were obtained, to the Admiralties. There the bombers loaded again with bombs which were dropped on the devastated Ponape Town in the Carolines on the return flight to the Marshalls.

During the period immediately prior to the assault in the Marianas, Navy search planes of this force ranged far out over the Pacific shielding the advance of the Naval forces. While engaged in these protective missions hundreds of miles from their small atoll bases in the Marshalls, these planes encountered and destroyed in individual combat Jap reconnaissance planes which were apprehensively probing the vast Pacific area in search of the approaching Naval forces and troop-laden transports.



At Funafuti before the Nauru attack. Left to right: Maj. Gen. Willis H. Hale, who personally led the attack on Nauru and Tarawa; Lt. Col. Ladson G. Eskridge, pilot of General Hale's plane; Brig. Gen. Truman H. Landon, and Col. George F. Goode, jr., USMC, Defense Battalion Commander in Pacific Area south of Gilberts on Funafuti.

The close dovetailing of air forces allowed the Army fighters to land on Saipan's Aslito airdrome on D plus 5 Day: These fighters supported the ground troops as they moved across Saipan. This support is one of the unusual stories of the war, with fighter pilots being briefed and instructed while hovering over the ground troops which they supported. Their first attacks were against Jap ground troops on the slopes of Mt. Tapocheau three or four miles from the field on which they were hastily based and in sight of the mechanics who serviced and protected the planes on the ground. When that island was secure, the same fighters strafed and bombed Japanese troops as they retreated from the onslaught of the ground forces during the invasion of Tinian.

Simultaneously a squadron of B-25's was brought to Saipan to give added support to the ground troops on Tinian and Guam. To an Air Force which is accustomed to flying the longest missions of any air force, all over water without benefit of fighter escort, the three mile mission from Saipan to Tinian was a novelty.

The first week in August saw the arrival of Liberators in the Marianas. These heavy bombers were swiftly put into action against the Bonins where they are still wreaking havoc on Japanese installations not 650 miles from Tokyo itself.

All this time ComAirForward continued the operations of Army, Navy and Marine Air Units left in the
(Continued on page 138)

The Hawaiian Sea Frontier

by Vice Admiral Robert L. Ghormley, USN

*Commander, Hawaiian Sea Frontier, and Commandant, Fourteenth Naval District**

THE anvil upon which the mighty effort of the military forces of the United States was forged is Pearl Harbor. On this anvil the dastardly and subtle attack of the Japanese enemy on 7 December 1941, welded our country, welded our public opinion to one purpose—to defeat the traitorous enemy. This same Pearl Harbor, which we remember as symbolic of Japan's treachery, is the headquarters of the Fourteenth Naval District and the Hawaiian Sea Frontier.

The District and the Frontier sprawl over thousands of miles of the Pacific, with Pearl Harbor as its nerve-center. The district consists of all the islands of the Hawaiian Group, as well as Midway, Kure, Johnston, Palmyra, and other smaller islands. Owing to its location and harbor facilities, this District



Vice Adm. Ghormley

has been and will continue to be the focal point of the war in the Pacific.

The main mission of the District is "To support the Fleet," and its major effort is devoted to that purpose. In this area men and ships are prepared for the battle fronts. Much that goes with an invasion of a Japanese stronghold, except the unalterable determination to win, is staged through this great base.

All of the islands within this District are armed camps. Every phase of America's war effort has a place in the District. Work by Naval, enlisted and civilian personnel goes on around-the-clock, seven days a week.

The Navy Yard, under the command of Rear Admiral William R. Furlong, USN, with Captain Roger W. Paine, USN, as Industrial Manager, has a most commendable record, which will speak for itself when the veil of secrecy is lifted in post-war days. Civilian men and women employees, many of whom came from the mainland in a desire to help the war effort in the Pacific, go about their tasks in a determined manner,

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*On 15 November 1944 Vice Adm. Ghormley was succeeded as Commander Hawaiian Sea Frontier by Vice Adm. David W. Bagley, USN. Admiral Ghormley's new assignment was not immediately announced.

Liberty Lands on Guam

by Major General A. D. Bruce, USA

Commanding General, 77th Division

PHYSICALLY and mentally in top trim from long months of arduous training in the mud of Louisiana, the heat and sand of the Arizona desert, the salt spray of Chesapeake Bay, the snow-swept hills of West Virginia, and jungles of Oahu, the 77th Infantry "Liberty" Division embarked for the island of Guam with full assurance in itself and the sure success of its mission.

The transports, loaded in record time four days ahead of schedule, sailed from Honolulu while the puffs and screams of the "Pineapple Express" which had brought its troops and cargo were still echoing from the hills.

The beaches on which we landed had been pulverized by the relentless pounding of naval guns and aerial bombs; the indomitable Marines had established initial beachheads when we waded ashore over



Maj. Gen. Bruce

a 700-yard coral reef in darkness and daylight through clear waters of the Pacific. Many troops almost drowned in coral potholes, shell holes, and bomb craters; a number of our vehicles did drown and had to be towed out. Supplies could not be brought ashore over the reef in the approved manner—we used rubber reconnaissance boats, life rafts, and anything else that would float in a foot or two of water, and dragged them by hand to the beach.

While the bulk of the division was fighting Nature on the beaches, the 1st Provisional Brigade and 3rd Division of Marines and one Infantry Regiment of the 77th did a magnificent job of securing a toe-hold on the island and capturing vital Apra Harbor. This task completed, the division reorganized and in conjunction with the Marines cut the island in two from west to east, turned, and started north to clear out what remained of Japanese resistance. Thousands of joyous natives were freed.

The speed of the advance, limited transportation, lack of sufficient roads, mud, rough terrain, and dense jungle made a touch and go proposition of supply. One regiment, in position at night to launch an attack in the morning, found that it could not hope to receive

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South Pacific Review

by Vice Admiral John Henry Newton, USN

Commander South Pacific Area and South Pacific Force

THE past year in the South Pacific Area and Force has witnessed the passing of the active combat phases of operations, through the successful elimination or neutralization of enemy forces.



Vice Adm. Newton

The active combat phase was concluded with the crushing of Japanese counterattacks on Bougainville during March and the successful landing on Emirau and Eloba islands in the St. Matthias Group.

The drive northward

through the Solomons was a relentless one. From August 1943, when New Georgia was secured, until April, the South Pacific combat team under the command of Admiral William F. Halsey, Jr., USN, drove through Vella Lavella, the Treasury Islands, Bougainville and successfully flanked the Japanese strongholds at Rabaul and Kavieng by the Green Island and St. Matthias operations.

Creation of Bougainville's Tokina perimeter and the construction of airfields there allowed Navy, Army, Marine and New Zealand aircraft to reduce these once powerful bastions of Japanese South Pacific strength. Green Island airfields augmented our offensive power and the enemy remaining in the South Pacific was safely sealed off.

Our sea forces during this period made frequent and highly successful forays into enemy waters, destroying many ships and striking hard at shore installations with bombardment.

Combined sea and air operations rendered Rabaul untenable for Japanese vessels of any description. Enemy airpower defending the area

was destroyed.

The elimination of Japanese resistance in the South Pacific Area resulted in changes to some extent in the overall mission of Navy, Army, Marine and New Zealand forces in the islands south of the Equator and east of the 159th meridian of east longitude.

Certain commitments have been assigned to the Commander South Pacific Area and Force. These commitments divide themselves into several distinct groups.

First, there is the continuing need to supply rations and provide generally for the garrisons required to hold and defend against enemy attacks the islands of the area, and their surrounding waters, and secure lines of communication between the Central Pacific and the Southwest Pacific Areas. Corollary to this requirement is the need to provide for service forces based ashore.

Secondly, the Area has been assigned missions in connection with staging and mounting land and sea forces for specific offensive operations in other areas of command.

Command of certain areas west of 159 E. passed from Commander South Pacific in June 1944, and at the same time, Admiral Halsey relinquished the Area and Force command and transferred the Headquarters of the Third Fleet. The areas which passed from South Pacific command included the New Georgia Group, Treasury, Bougainville, Green Island and Emirau. However, the South Pacific Force retains the responsibility for logistical support of this area.

While it is not possible to go into great detail or give breakdown figures, it is interesting to note that the aggregate logistical mission of the South Pacific Area and Force involves forces greater in number at the time this is written than in any prior period. There is an easily understood reason for this continuing population and sustained activity in the South Pacific. Reference to a chart of the Pacific provides the answer.

Islands of the Central Pacific which have been occupied at this writing are for the most part small volcanic islands or, more commonly, atolls. The area of most of them can be measured in acres. Their small size limits their use for housing, training and staging the total forces required for our expanding operations. The problem of securing an adequate flow of supplies is extremely complex.

South Pacific islands, on the other hand, comprise areas measured in the hundreds of square miles. Fortunately, these islands—for the most part of volcanic origin—afford excellent harborage, adequate anchorage and roadstead. This combination of land mass plus harborage has been exploited by all the services in carrying out the overall strategic and tactical plans.

Again, it is not possible to give exact figures, but it can be stated that more tons of cargo were handled in the South Pacific Area during the first eight months of 1944 than many a major United States port handles in a full year of peacetime operation.

On the human side the South Pacific Force has provided hospitalization, convalescent care and rehabilitation for large numbers of wounded and battle-fatigued men. From the Saipan, Tinian and Guam operations alone, a large percentage of battle casualties were cared for in South Pacific Navy and Army hospitals. Other large numbers were evacuated from the Palaus. The excellent climate of the southern islands of the area has given new vigor and health to battle-tired and jungle-weary men.

Extensive rehabilitation and recreation areas for forces based ashore as well as afloat have been established in rear areas of the South Pacific. Many facilities have been provided to give men relaxation and comfort.

The change in the overall mission assigned to the Commander South Pacific has occasioned a reassessment of personnel needs. It has

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Southwest Pacific Area Operations

by radio

from Southwest Pacific Allied Headquarters

THIS theatre ranges three thousand one hundred miles from West to East—from Batavia to Kaviene. It is equivalent to our Northern hemisphere from Panama Canal to Hudson Bay. If the continental United States were super-imposed over the Southwest Pacific theatre with Bougainville given the same location as New York, Milne Bay would be at Charleston, Darwin at El Paso, Borneo at Seattle, and San Francisco at Sourabaya. Tactically and strategically the problem would be the same as conducting a war from Headquarters in Miami, Fla., with a mission to advance by land, sea, and air on a front ranging from Boston to Seattle. In comparison with the European theatre the Mediterranean would not cover the northern half of Australia. Operations from Milne Bay to Manila are equivalent to advancing from the Black sea to Iceland, the advance from Madang to Morotai the same distance as from Cairo to Berlin. General Douglas MacArthur, Allied Commander in the Southwest Pacific, has utilized these unique geographical time and space factors in planning his strategy. This is evident in the iron continuity of the plan which runs in a straight line from Milne Bay to Manila. Along this axis General MacArthur conducted a series of brilliant amphibious maneuvers. All intermediate seizures were a part of this central theme carried out by ground, air and navy components welded into a practically integrated machine.

Phase one of these vast operations—Gloucester to Saidor—is marked by the seizure of Arawe back in December 1943, the Cape Gloucester landings 26 December 1943, the Saidor landing 2 January 1944, giving objective control of the Viciat Straits preliminary to the drive on the Admiralties.

Phase two saw the seizure of the Admiralties 29 February 1944. The drive on the Admiralties represents a practical breakthrough maneuver splitting the Japanese front from Rabaul to Hollandia, and separating the Eighth Army

at Rabaul from the Eighteenth Army at Wewak and cutting his air shuttle between powerful air centers. The Eastern enemy sector was neutralized through seizure of Gloucester and the eastward advance across New Britain. Our forces then turned north-westward to deceive and destroy the Eighteenth Army and the whole line of Japanese successive defense positions



Signal Corps Photo
General Krueger, General Kenney, and General Sutherland discuss the invasion of Dulag, Leyte Island, P. I.



Signal Corps Photo
General Douglas MacArthur goes ashore to inspect a newly established beachhead on Leyte.

from Mindanao to Geelevink Bay. Operations thereafter represent a series of amphibious bounds to cut the enemy line of communication and deprive him of Naval and Air Bases, or if he chooses to fight to meet him on grounds of our own selection.

In the third phase of the Southwest Pacific operations, the destruction of the Eighteenth Army at Wewak was a typical performance. The Australian forces exerted frontal pressure in a land advance from the Ramu Valley via Madang (24 April 1944) to the Sepik river, while a decisive envelopment was staged by sea in the capture of the Hollandia Airdrome Center (26 April 1944). Far in rear of the enemy stronghold of Wewak the Eighteenth Jap Army was forced to fight at an outpost of Hollandia, advancing through the vulnerable jungle line of communication to be ultimately destroyed in the Aitape-Dilniumor battle.

In phase four, Biak-Sarmi-Wakde, an advancing allied arc of air cover integrated with ground forces effected the seizure of Wadke (18 May 1944) and Biak (27 May 1944). This action secured important airdrome areas in addition to the destruction or neutralization of several divisions. Quick assault secured the additional groundpoints of Noemfoor (2 July 1944), Sanspor (31 July 1944), and Morotai (15 September 1944).

In phase five, from Morotai to Leyte, Manus Island became a powerful Naval Base, utilized by the Central Pacific as well as our own Fleet. This former enemy

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The Task of the Australian Army

by General Sir Thomas Blamey GBE., KCB., CMG., DSO., ED.

Commander-in-Chief of the Australian Military Forces

HAVING borne the brunt of the land-fighting in the Southwest Pacific area up to the early months of 1944, the Australian Army has since been replaced gradually by American forces which are at the moment carrying out practically the whole of the land-fighting in this theatre.

However, so far as the Australian Army is concerned, this present inactivity is no more than a very necessary "breathing-space" — a phase which have been devoted to its rehabilitation and reorganization. This "spell" was made imperative by the heavy casualties and sickness suffered in two years fighting in some of the worst terrain in the world. (More than 1,400,000 men have passed for treatment through Australian Army hospitals since fighting began).

Today, the Australian Army is "fighting fit" again—a well-trained, well-equipped effective force, ready immediately to take whatever tasks are allotted to it by the Commander-in-Chief of the South West Pacific Area.

In the early stages of the New Guinea campaign—from the time the Australian Army took the offensive in September 1942 along the Kokoda trail, and a little later when American troops came in on our flanks at Buna—the Japanese held control of the sea and air, completely denying us any opportunities to apply the technique of strategical by-passing.

Every yard of ground had to be bitterly contested, and every Japanese in an area had to be eliminated either by death or by capture. This, then, was the programme followed out by the Australian Army in the successive advances which carried it from the first victory at Milne Bay in September 1942, to the clearing of the Ramu Valley and the occupation of the northern coast of New Guinea as far as the mouth of the Sepik river.

With this long coast-line under our control and with the great increase in Allied air and sea power, it became practicable to resort to by-passing. At first on a small scale, and later on the major scale developed in General MacArthur's attack on the Philippines.

But, there is danger in accepting this by-passing technique with all its strategical implications, as implying the actual elimination of the Japanese in the territories where they have been by-passed. (These are the territories which the Japanese had conquered

before two Australian brigades stopped their advance at Milne Bay at the end of August and early September 1942, and a few weeks later another two brigades stopped their drive through the Owen Stanley Ranges). There are also other territories further west where American troops have by-passed Japanese forces in later advances.

By-passing of Japanese garrisons does not signify that they have been rendered either ineffective or impotent. In the Australian arc which spreads from Wewak in the northwest of British New Guinea through New Britain and in the Solomons, there are still 90,000 Japanese. The Japanese on the extreme western end of this arc probably are in a bad way for food; but it is a fact that they are still prepared to fight back, as indicated by the vigor of their anti-aircraft defenses as well as other activities.

In New Britain, New Ireland and in the Solomons, it is reasonable to expect that the Japanese garrisons will fight, just as fanatically as did their troops in Buna, Gona and Sanananda, and later in the Salamaua and Huon Peninsula.

Some one has to assume the responsibility of cleaning out these Japanese.

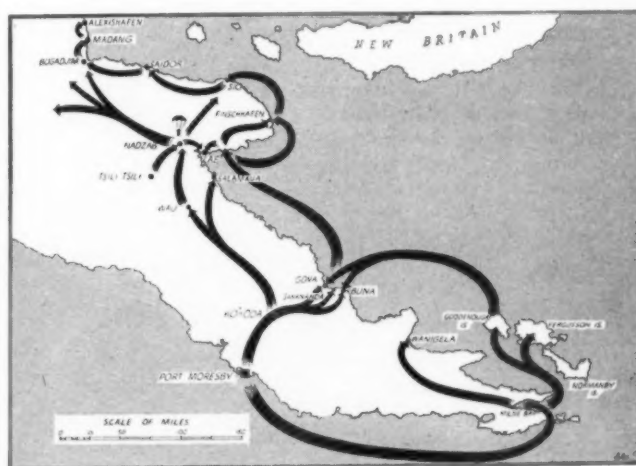
There are many thousands more still to be cleaned out of the Halmaheras, the Celebes, Borneo, the Netherlands Indies and from all Continental Asia from Malaya northwards. And large bodies of troops are essential to contain the Japanese garrisons in their present positions until such time as their destruction is determined upon.

Although by-passing tactics have to a large degree

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Gen. Blamey



Operations undertaken by the Australian Army since July-August 1942. In most cases the Australian Army had the support of both the Royal Australian Air Force and the United States Army Air Force. Full credit is not given in this diagrammatic sketch to the participation of Allied Forces, but the lines of advance are those which were exclusively Australian or in which Australian troops preponderated.

Air Operations in the Southwest Pacific

by Lieutenant General George C. Kenney, USA

Commanding General, Far East Air Forces, Southwest Pacific Area

IT is in this theatre that Japan's air forces made their major effort. Here they have maintained the greater part of their strength in spite of appalling losses on the ground and in the air. Here they have been defeated. Since 1 July 1942 the Jap has lost over 4000 aircraft, and in addition he has had well over a million tons of shipping sunk or badly damaged at the hands of the Air Forces of the Southwest Pacific. We now completely dominate the air to the extreme range of our airplanes. Every advance of our ground forces and consequent moving forward of our bomber line moves the Japanese air back a corresponding distance.

Our formula for victory, tried and tested for two and a half years, is still being followed:

First—Gain air control by destroying the enemy aircraft on the ground and in the air and render untenable all airdromes within range.

Second—Establish and maintain an air blockade to prevent replacement or reinforcement, and cut off the flow of supplies to the area under attack.

Third—Destroy the enemy supplies, knock out his anti-aircraft, his artillery and his ground defense system.

Fourth—Support, by heavy bombing and strafing attacks, the amphibious forces, which seize the ground and construct airdromes from which our aircraft repeat the program for another move forward.

The pattern followed in 1942 during the Buna campaign was typical of operations since. The Jap was driven from the air over Papua. The air blockade stopped his efforts to relieve his Buna garrison by sinking or turning back practically every vessel attempting to run the blockade. The last of these attempts resulted in our victory of the Bismarck Sea in March 1943, when every one of 12 cargo and transport vessels with their ten escorting light cruisers and destroyers was sunk with an estimated loss of 15,000 lives and a cost to us of one bomber and two fighters while 61 enemy aircraft were destroyed in combat.

In the fall of 1943, the same tactics gave us Lae, Salamaua, the Markham Valley, Finschhafen, Arawe



A B-24 of the Far East Air Forces over Davao during an attack on the Jap-held port of Mindanao in the Philippines.

and Gloucester. The Jap air forces at Wewak and Rabaul, his main bases, had been reduced to charred wrecks or shot down in combat. Frantic attempts to replace destroyed aircraft and dead air crews had bled Japanese air power white. 1944 opened with a promise of victory. The time was ripe for slashing advances against an enemy whose air umbrella had folded up against the rain of bombs and bullets that had hammered him with ever increasing tempo since the 17th of August 1943, strafing attack on Wewak, which practically wiped out an air force of over 200 planes.

By February 1944, the Nip decided to make a large scale relief of Kavieng and Rabaul. The Fifth Air Force sank 26 vessels in four days. Hope of getting ships through our blockade was shattered and New Ireland and New Britain were left to their fate. The last attempt to relieve Wewak was in March, 1944. Nine vessels tried it but when seven were sunk Wewak was left to suffer the same fate as Rabaul.

After a month of steady bombing the Admiralties were suddenly seized by a handful of troops, and forty-eight hours later Allied aircraft were operating from the former Jap field on Los Negros Island. The Bismarck Sea was corked. It was now, to all intents and purposes, an Allied Lake.

Feeling secure at Hollandia, 500 miles away from our main air base, the Jap tried to erect a dam there against the steady forward movement of MacArthur's forces. He improved the existing Hollandia field, built two others and stocked them with over 400 aircraft and large quantities of spare parts, supplies, fuel and ammunition. He didn't know that we had just gotten in a shipment of P-38's with extra fuel capacity.

On 30th and 31st March, and 3rd and 5th April, Hollandia became a graveyard of aircraft, anti-aircraft defenses, wrecked and sunken vessels and barges, and

(Continued on page 136)



Left to right, Maj. Gen. Ennis C. Whitehead, commanding the Fifth Air Force; Lieutenant General George C. Kenney, Commanding General, Far East Air Forces; and Maj. Gen. St. Clair Streett, commanding the Thirteenth Air Force.



Army troops go ashore from Navy landing craft as the invasion of Morotai Island gets underway 15 September 1944. Heavy air and naval bombardment preceded the landing. Navy Photo

Sea Pathways to Japan

by Vice Admiral T. C. Kinkaid, USN

Commander, Seventh Fleet

ALLIED capability to exploit the potentialities of over-water maneuver in every operation has played an important part in the relatively rapid advance through Japan's dwindling Southwest Pacific conquests during the past year.

Beginning with the trio of amphibious assaults that secured the seaway formed by the Vitiaz and Dampier Straits toward the end of 1943, and continuing on throughout 1944, every operation has been seaborne and sea-supplied. The rate of progress that has ensued may largely be attributed to the enemy's tremendous and increasing loss of ships, war cargo and men, to the diminishment in this and other areas of his total naval forces, to his preoccupation with the activities of our Central Pacific Naval Forces, and constant harassing by the Army Air Force.

Yet, the amphibious character of each move and the rapidity with which operation followed operation, has placed a heavy burden on the Allied Naval Forces, particularly the 7th Fleet's Amphibious Force. The specific problems individual to each has not permitted the casting of a permanent mould. Each has posed a different set of tactical problems.

Each assault has necessitated a plan of the moment, varying with the character of the resistance offered by the hydrog-

raphy, the terrain and the enemy opposition. Each has demanded the prime element of strategic surprise.

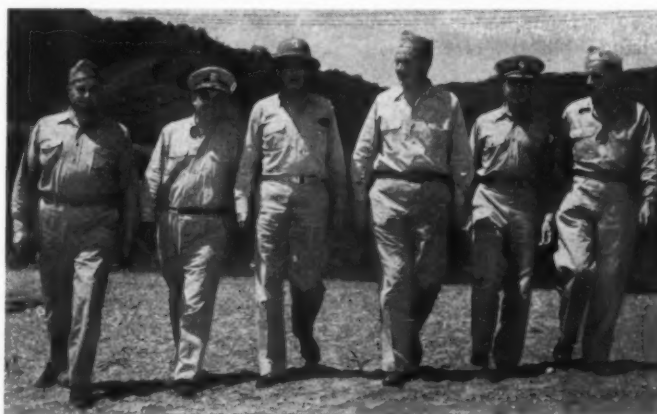
Each has called for the safe passage over hundreds of miles of sea or around large bodies of troops without detection by the enemy, or, at the least, without his guessing at what particular point the blow would fall. Landings have been made over ideal beaches. They have been made over wide, drying coral reefs. Dictated by necessity, the assault craft hit the beach in the first wave yesterday. Today it would be boats. Tomorrow—armored amphibious tractors.

Yet, in every case the Amphibious Force has delivered many thousands of men, equipment and supplies to the selected area until they have been relieved by regular supply organizations of the Army and Navy. In all these operations only two vessels, a destroyer

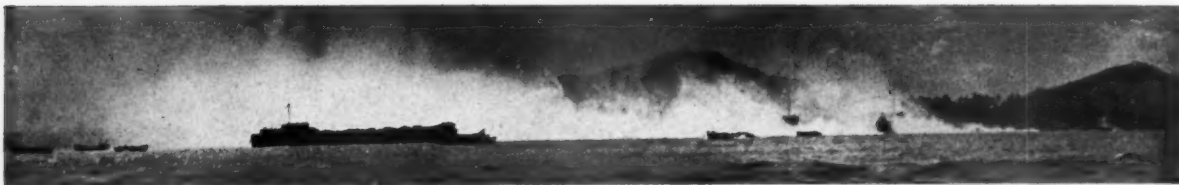
and a small auxiliary, have been lost. A number of others have been damaged more or less heavily, but all have been or will be returned to service.

In many instances, control of land areas between our landing forces has remained, as it still remains, in the hands of the enemy; whole Jap armies have been bypassed by convoys moving past them by sea to strike in their rear. Control of the sea has been taken from him. His forces have been outflanked

(Continued on page 136)



U. S. Navy Photo
Ranking officers of the Third and Seventh Fleet gather at Advanced Naval Headquarters, Seventh Fleet, to make preparations for the invasion of the Philippines. Left to right: Commo. Homer W. Graf, USN, Chief of Staff, Seventh Fleet; Rear Adm. Daniel E. Barbey, USN, Commander Amphibious Forces, Seventh Fleet; Vice Adm. T. C. Kinkaid, USN, Commander Allied Naval Forces, Southwest Pacific Area; Vice Adm. T. S. Wilkinson, USN, Commander Amphibious Forces, Third Fleet; Rear Adm. Forrest P. Sherman, USN, Deputy Chief of Staff, Pacific Ocean Area; and Brig. Gen. William E. Riley, USMC, War Plans Officer on the Staff of Admiral William F. Halsey, USN, Commander Third Fleet.



At the end of a long supply line—U. S. Navy bombardment forces blaze away at Leyte in the Philippines as LST's and LCM's move in on Red Beach, the most fiercely defended by the Japs. U. S. Navy Photo

Servicing the Pacific Campaign

by Vice Admiral W. L. Calhoun, USN

Commander Service Force, U. S. Pacific Fleet

THE Service Force of the Pacific Fleet is a modern gargantua evolving from the old supply train of the fleet. It is, in effect, a human cuttlefish spreading its logistical tentacles throughout the Pacific. To the Japanese it must be, in reality, the devilfish of the Pacific Campaign. Having reached its climax, insofar as surface warfare is concerned, the Pacific Campaign is now not only revealed as the greatest Naval Operation in all history but also an outstanding achievement in the matter of supply.

Plans for furnishing fuel and ammunition for warships and planes, and provisions and supplies for fighting men, are laid many months in advance of every combat operation. Planners of the Service Force join with the strategists of the fighting fleet in deciding on the time and place for the "strike." Given the schedule, Service Force cargo ships and oilers are loaded and begin their voyage across thousands of miles of the Pacific to the base designated for a meeting place with the fleet. In 1944 every major operation against the Japanese Forces throughout the Central Pacific was serviced on time.

The average oiler carries 100,000 barrels of oil or gas. At Saipan in July, 15 million barrels of fuel were used. Average tanker trip to Saipan takes 66 days exclusive of loading and other delays. The successful occupation of this important Japanese base speaks for itself. The Service Force delivered the goods.

Similar cooperation between the Fleet and the Service Force showed the same results in the October battle of the Philippines. Service Force was commended



Vice Adm. Calhoun

by Admiral Halsey for its part in the victory. Service Force Group Commanders have been cited for their accomplishments in other operations of the year.

Service Force Salvage Command has raised numerous ships in 1944, allowing them to return to Service. This Force cleared the harbor at Saipan of Japanese hulks, reclaimed three Japanese ships which are now in the service of the United States. Salvage work goes on from day to day, as maritime accidents and the fortunes of war call for it to be done.

Fleet Maintenance has been carried out satisfactorily. Patrol craft, net tenders, mincraft, floating docks and repair ships have all participated in the servicing of the Pacific Campaign. Many Service Force Patrol craft became control ships during the major ship-to-shore actions of the Campaign. Hospital Ships of the Service Force have been in continuous service, handling all the casualties of the war here in the Pacific. Harbor stretching, port direction, base construction and cargo handling by Service Force land based units, which move in quickly after combat forces occupy new objectives, have resulted in the providing of important bases throughout the campaign.

Individuals in the Service Force have distinguished themselves. Many have been decorated. The complete understanding by all personnel of the problem confronting them, and their cooperation in keeping the line of freighters, oilers and service ships going the long miles over the ocean have formed the basis for servicing successfully the Pacific Campaign.



Navy LCM's (Landing Craft Mechanized) bring supplies ashore and return with casualties from the shores of Leyte during the opening phases of the Battle of the Philippines. U. S. Navy Photo

Role of VLR Aircraft in Victory Over Japan

by Major General Curtis E. LeMay, USA

Commanding, XX Bomber Command

NEVER before in the history of warfare has so much been expected of a single weapon as of the VLR aircraft, the B-29.

While the Super-Fortress was being translated from blueprints to an aircraft that would carry a heavier bomb load, further, and faster than any previous aircraft — Allied airpower was demonstrating its effectiveness in modern warfare.

Launching the first Allied offensive against Festung Europa, the United States Army Air Forces and the Royal Air Force, working together as a well co-ordinated team, systematically destroyed the key industrial and military targets by which a mighty German military juggernaut had been sustained.

As the "War's worst kept secret" the B-29 captured the imagination of an air-minded world. Its employment in the European conflict was anticipated by friend and foe. But—for the B-29 Destiny had in mind the Pacific.

After the treacherous Pearl Harbor attack, Japan extended her Machiavellian domination over thousands of square miles of land and water. In order that airpower could be employed in the strategic bombardment necessary to cripple the Japanese war potential—as it was being used against the other Axis Powers—an aircraft was needed that could attack the heart as well as the perimeter of Japanese aggression.

At Cairo, Egypt, in November 1943, during the memorable meeting of President Roosevelt, Prime Minister Churchill, and Generalissimo Chiang Kai-Shek, a momentous decision was made—the B-29 Very Long Range aircraft was committed to combat against Japan.

The Twentieth Bomber Command was activated and entrusted with taking the world's deadliest and most complex aircraft into that combat. Later, the Twentieth Air Force was activated and became the parent organization with General H. H. Arnold assuming command.

Carrying the Cairo Plan forward to its realization, the Twentieth Bomber Command was established in the China-Burma-India Theater. Its Headquarters and rear bases were established in India. Its forward bases were located in China. From these bases, and a secret base near the Equator, attacks were mounted against strategic targets heretofore inaccessible to shorter



Maj. Gen. LeMay



Giant B-29's on a field "somewhere in China" prepare for another smash at Japan's vital industrial centers.

ranged land-based aircraft.

Since the Bomber Command's arrival in the Theater, its VLR aircraft have attacked strategic targets in such diverse locations as Thailand, Occupied China, Manchuria, Sumatra, and Japan proper.

The results of these attacks were twofold. A great deal was learned about the B-29. And sufficient damage was inflicted upon the Japanese homeland that the enemy—unusually reticent to acknowledge his defeats or reverses—made an apprehensive admission.

This miracle of propaganda was broadcast by the Japanese on 21 August 1944:

"As we review the past four raids by the enemy planes, we must note the gradual increase in the number of the attacking planes . . . the sphere of their attacks has also been extended . . . the shortening of the interval between the attacks . . . we must be cognizant of the fact that we are facing an adversary with a fighting spirit of no mean degree."

In addition to the "fighting spirit" for which the enemy has commended the Twentieth Bomber Command, its resolute determination helps to solve the imponderable logistics of mounting the longest range attacks in the history of aviation.

Supplies—parts, tools, equipment, instruments, and ordnance—must be transported from ten to twelve thousand miles to reach rear bases. Maintenance must be accomplished despite the vicissitudes of heat, dust, wind, rain, and humidity. Repairs and modifications must go on regardless of shortages. Each day the difficult is handled as routine, the impossible is overcome by ingenuity.

Petroleum, oil, and lubricants for tactical and transport aircraft and motor vehicles—and all freight requirements from two-and-a-half ton trucks to cotter pins and paper clips—are flown to the forward bases from India by an air transport system staffed and operated by Bomber Command and by the Army Air Transport Command.

The "Hump" flight from India to China—a distance in itself exceeding the round trip bombardment attacks

(Continued on page 136)

"Main Event In CBI"

by General Joseph W. Stilwell, USA

*Commanding General, U. S. Army Forces, China, Burma, India**

ACCCELERATING the speed of our moves and increasing the intensity of our blows in the Pacific have brought the eyes of Americans closer to a ring which has never before been really spotlighted in a large fighting arena. The outer fringes of Asia have at times glowed from catching stray beams of light, but the battle going on in China, Burma, and India has never been large enough, in contrast with Morocco, Italy, and France, to catch the public eye. However, with one opponent now down to his knees on one mat, we find ourselves preparing to watch the show on the other.

As in a card where the main event is what the customers want to see and the preliminaries are thrown in merely as appetizers, there is a tendency to ignore the fact that each preliminary is a battle in itself, each embodying its own series of preliminaries. Where the Theater of War differs from a fight-card is that the preliminaries have a definite continuity and the climax or main event is the direct result of a series of events and battles. As yet, China, Burma and India as a Theater of War has not reached the main event. But it is largely a matter of time—and very shortly, we hope.

Building up for the big fight in this Theater has taken the better part of three years and the process is still progressing. Our men have been in places mentioned only in travel-books and encyclopedias. They have had to work with peoples accustomed mainly to manual labor and seasonal or intermittent production. They have had to utilize communication and transportation systems developed primarily for colonial industry and retail commerce. But the spirit and com-

bined efforts of our Allied peoples are licking the problems which have cropped up—and licking them permanently too.

The main activity up to the present time has been in building supply bases and establishing lines of communications which extend over land distances comparable to those running from Los Angeles to New York and then back to Los Angeles. Ports in India previously accustomed to spasmodic bursts of activity now ring for 24 hours with the metallic clang of winches and chains and the hoarse yells of stevedores. Railroads which once carried small trains operated by lackadaisical men who chatted with friends at every way station are humming with rolling stock loaded with war supplies, operated in critical stretches by G-I engineers who know where the stuff is going and why. The bullocks and goats which used to roam dusty country roads with immunity are now pushed off by convoys of hundreds of trucks. Villages and hamlets have blossomed into busy centers, enlarged by orderly rows of warehouses and dumps and G-I tents or bashas. Everywhere in the Theater, life has been considerably affected by the presence of Americans and their accompanying energy and good nature.

Foremost in the public eye about this Theater and of the most vital importance to the effort here are the "Ledo Road" and the "Hump." Both projects were initiated immediately after the Jap occupation of Burma.

Construction of the Ledo Road started at the end of 1942 with a handful of engineer troops and little equipment. Today, immediately back of the combat front, American Engineers are cutting trace, jockeying bull-dozers and graders, felling trees, filling and corduroying, so that a finished road can snake through. Installations of all types, in every arm and service, dot the Road along its several-hundred mile length through some of the thickest, toughest, and wettest jungle country in the world. The men worked and still work under conditions which must be about the most difficult anywhere—jungle, terrain, climate, insects, diseases—but they're happy in doing their job and in the knowledge that this Road will carry the necessary supplies into China to take care of the Japs.

"Flying the Hump" is now routine. Two years ago, negotiating the mountain barrier between India and China required the best in flying and navigation. Thunderstorms, shifting winds, high altitudes, and various mental hazards made religious men out of crew members. But today, hundreds of sorties daily carry more tonnage than the old Lashio-Kunming road ever did. Navigational aids are at the call of every radio operator and navigator. The reconquest of territory in North Burma has cut the necessary high altitude for clearance and safety down one-third and has provided staging fields to accommodate more planes

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In Northern Burma, left to right: Brig. Gen. William E. Bergin, Deputy Chief of Staff, Chinese Army in India, Brig. Gen. Hayden L. Boatner, Chief of Staff, Chinese Army in India and General Joseph W. Stilwell.

The China-Burma-India Theater in 1944

by Lieutenant General Daniel I. Sultan, USA

Deputy Theater Commander, C.B.I.*

DURING 1944 the activities of the China-Burma-India Theater increased greatly in scope and showed encouraging results. The United States Army Forces came to this theater for one purpose: to defeat the Japs. General Stilwell expressed it aptly when he said, "We're not here to fight China's war. We're not here to fight Britain's war. We're here to fight our common war against our common enemy. And the sooner we get it over with, the sooner we'll all go home again."

A most important step toward defeating Japan was to get vital war materials to China and to aid and support her in every way possible. For over two years American troops in this vast theater, which is approximately 3000 miles long and 1000 miles wide, have directed their energies toward that end.

With the collapse of Burma in the spring of 1942, China was completely isolated by Japs and had lost the Burma Road, her one remaining door to the outside world. The Air Transport Command performed miracles in transporting supplies and ammunition over the Hump—perhaps the most dangerous flying territory in the world. But miracles were not enough. We had to open a land route between India and China, and so American engineers undertook the building of the Ledo Road.

The construction of this road is one of the most remarkable feats in engineering history. Some people said it couldn't be done, others that it wouldn't be done in time to help China. Our engi-

*On 28 October 1944, President Roosevelt announced that Lt. Gen. Sultan's assignment had been changed to that of Commander United States Forces India-Burma Theater.



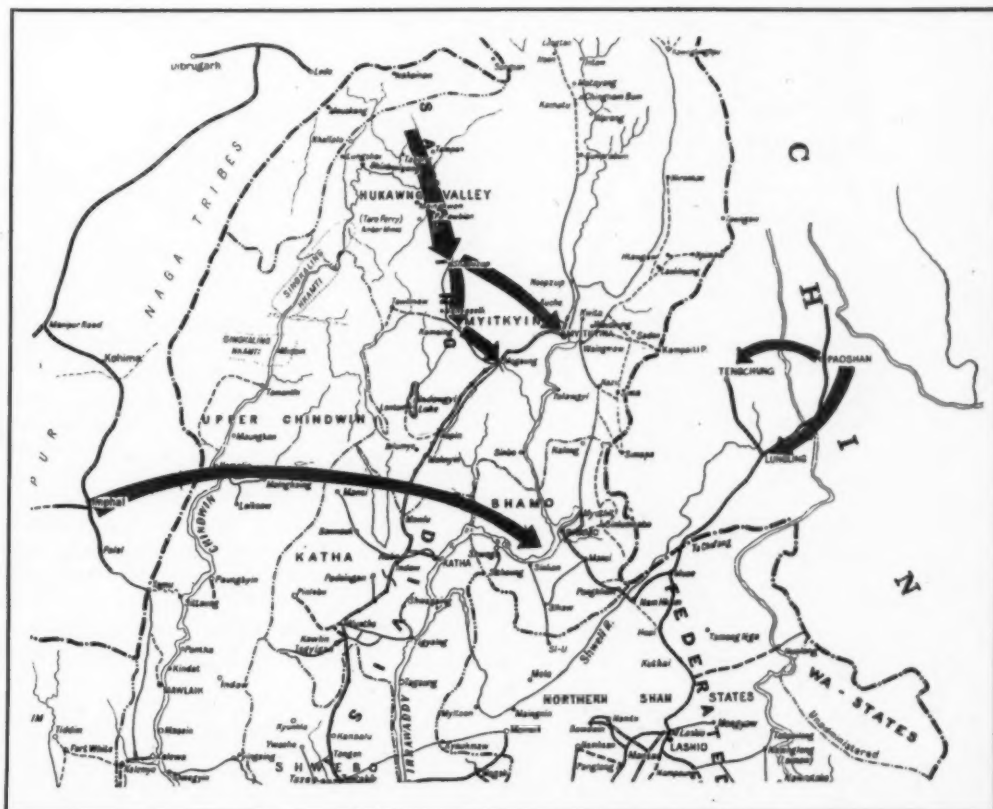
Lt. Gen. Sultan

neers rolled up their sleeves and went to work. Twenty-four hours a day they pushed bull-dozers and graders through jungle-covered mountains that reach a height of 4500 feet. Late in December, 1943, the first truck from Ledo got through to Shinbuiyang which is at the head of Burma's Hukawng Valley.

But the Japs were little more than a hand-grenade's throw away. It was up to the Chinese 22nd and 38th Divisions under the command of General Stilwell to clear northern Burma of the enemy before the road could continue its forward progress. These troops had been trained in American combat methods and the use of modern fighting equipment by American officers. During the first two months of 1944, they steadily pushed the Japs south in the Hukawng Valley. The Ledo Road engineers followed close behind.

In March several important events took place. On the fourth of the month Chinese forces occupied Maing-kwan. On the following day Merrill's Marauders, completed a 117-mile march through the jungle and penetrated the Jap lines to seize Walawbum. From then on this group executed many hazardous and difficult missions which contributed to the success of the north-Burma campaign. The same day that Walawbum fell, another famous outfit entered the campaign. Led by the late Major General Orde Wingate, the British Chindits landed by glider and parachute deep behind

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Allied Air Operations Over Burma

by Major General George E. Stratemeyer, USA

Commanding General Army Air Forces India-Burma-Sector, and Air Commander, Eastern Air Command

PROBABLY in no other theater is the successful prosecution of the war so dependent on air power as in Burma. And probably nowhere else is the conduct of air warfare so much a matter of improvisation, particularly with higher priorities for other theaters keeping resources at a minimum.

At the end of the 1943 monsoon the Japanese held virtually all of Burma, and as late as November of that year were able, from their fields in Northern Burma, to launch attacks against the air transport lines over the Hump to China. Calcutta itself was raided—for the last time—on 5 December 1943. It was to meet this grave situation that the Southeast Asia Command was formed under Admiral Lord Louis Mountbatten and charged with protecting, developing

and expanding air and land communications between India and China, and with clearing the Jap from Burma as completely as could be accomplished with the limited resources available. With the need for air supremacy obvious, Lord Louis promptly integrated virtually all RAF and USAAF aircraft in Eastern India and Burma into the Eastern Air Command—a single striking force to handle all phases of strategical and tactical air offense and defense and ground support.



Maj. Gen. Stratemeyer

Our fighters quickly established their superiority, destroying the enemy on and over his own fields and forcing replacement far in excess of 100 per cent. Transport routes were cleared of danger and many key Japanese fields were made untenable. Heavy bombers attacking shipping and harbor facilities at Rangoon and Bangkok in some of the longest raids of the war completely immobilized the former as a useful port and greatly diminished the utility of the latter.

These raids denied many needed supplies to the Japanese troops fighting further to the North, and medium and fighter bombers constantly harassed lines of communication and supply dumps, starving the enemy still further.

The constant support afforded ground forces—support of every conceivable type—is best illustrated by the four main phases of the war in Burma this year; the Japanese thrusts in the Arakan, in Southwest Burma, and against Imphal and Kohima, in Northeast India; the Cochran-Allison-Wingate airborne invasion of North Burma, and the advance of General Joseph

W. Stilwell's troops along the Ledo Road culminating in the capture of Myitkyina.

In February, 1944, the British 7th Division, fighting in the Arakan, was cut off and encircled by the Japanese. Food, ammunition and medical supplies were exhausted; there was no possibility of pushing reinforcements through. American and RAF transport squadrons under Brig. Gen.

Donald C. Old strengthened by planes hastily diverted from the Air Transport Command, flew in and dropped needed materials to keep the 7th a fighting unit. Light planes flew in with medical supplies and flew out with wounded—a tremendous morale factor. The 7th, fully maintained at all times, fought its way clear and the main Japanese thrust was broken. Never again did the Jap threaten the Arakan.

Only a few weeks thereafter the airborne invasion was launched. Gliders took in American engineers and their equipment and within twenty-four hours strips prepared in the very heart of Japanese-occupied Burma were receiving transports loaded with the late Maj. Gen. Orde Charles Wingate's Chindits. Every ounce of supplies to maintain them came from the air, and when reinforcements arrived they were a column the Commandos had set down in Northern Burma and maintained on the march to the South. And always casualties were assured of swift removal by light plane or transport to hospitals in the rear—something impossible during the Wingate invasion of 1942, when there was no air support.

The Japanese offensive against Imphal and Kohima constituted a direct threat to General Stilwell's supply line to the Ledo Road as well as to India itself. Pushing up past Tiddim, from which the British had withdrawn, the Jap forces streamed around Kohima, cutting it off, and then isolated the garrison at Imphal. Tactically the situation was the same as that in the Arakan, except that the forces engaged were much



Tiny Chatham Island, off the lower Burmese Coast, gets a demonstration of the pinpoint precision marksmanship of bombardiers of the U. S. Army 10th Air Force, as Jap military installations on the island are blasted.

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14th Air Force Operations From China Bases

by Major General C. L. Chennault, USA

Commanding Fourteenth Air Force

AS this is being written Tokyo radio is announcing: "The Japanese Diet begins an extraordinary session today. Much of the discussion will be centered on Japan's shipping situation, described as 'grave'."

"Grave" is the word. That enemy admission on shipping losses appraises an important part of the results obtained by Fourteenth Air Force operations from China bases. Tying Japanese admission to a fair paraphrase of our ordered task, the story of what we have done is particularly pointed.

Our mission is first the defense of the India-China transport routes and their China terminals, and next the support of Chinese ground armies within the established zone of our operations. That includes the destruction of hostile aircraft, shipping and installations.

Support of Chinese armies in defensive campaigns in the interior of China, like attacks on enemy shipping, is intimately connected with far-reaching strategic objectives.

It should be noted that air support of Chinese armies differs materially from air support of ground forces in almost any other theater of this war. This is because the Chinese armies are almost wholly without artillery and tanks and extremely deficient in mortars and automatic weapons of all categories.

We have had to endeavor to supply these deficiencies with firepower from airplanes; to supplement the relatively low firepower of the Chinese troops with what amounted to flying machine-gun companies and artillery, through use of fighters and bombers, machine guns and bombs. Rockets, first used by the Chinese against the Tartars in 1232, have returned in modernized form on the wings of our airplanes for the defense of China.

In support of the hard-pressed Chinese Armies on the Yangtze-Tungting-Hengyang front, from 1 July to mid-August this year, the Fourteenth Air Force dispatched more than 10,000 sorties, dropped nearly 4,000,000 pounds of bombs and sprayed nearly two and one-half million rounds of .50 caliber ammunition into Japanese positions, close-packed columns of infantry, cavalry, troop-laden river transports and supply craft. In a

single day in early September sorties from one wing of the Fourteenth Air Force reported killing more than 1,000 Japanese troops, 600 horses and the destruction of numerous trucks and river craft, on the front and supply lines south of Tungting Lake.



General Chennault

But, as the enemy has noted in the broadcast quoted above, the heaviest and most telling blows of the Fourteenth Air Force have resulted from our unceasing attack on enemy shipping.

In my opinion, shipping is the most vulnerable part of the Japanese military organization. The Empire is dependent on shipping for its existence. The population of Japan depends on shipping for foodstuff as well as materials with which to work. Yet the average Japanese merchant vessel is almost defenseless and presents an easy target for our airplanes.

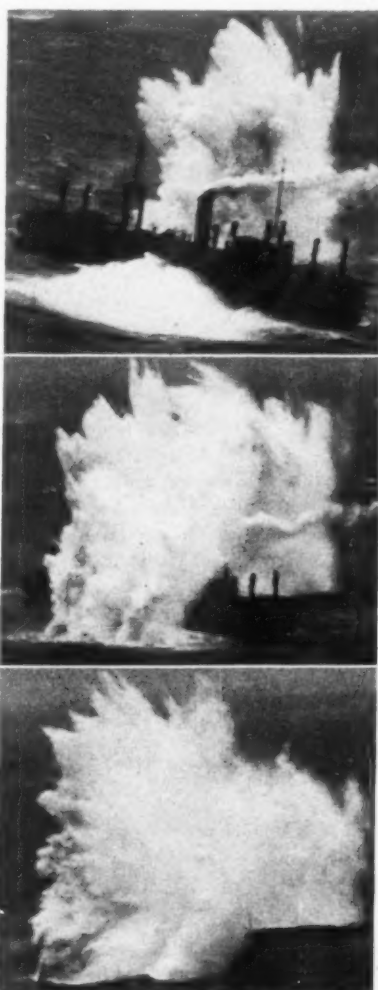
The Japanese-occupied areas of China from Shanghai south and southwest are not connected by land communications as this is written. They are wholly dependent for most of their personnel and military supplies on coastal, deep-water and river shipping.

Those same ships take back to Japan the food and strategic materials most needed for the manufacture of munitions of war. As they approach the China coast with Japanese troops and supplies they are highly tactical targets; as they return to the Empire they are wholly strategic.

Considering the size of the force available for attacks on this shipping, the Fourteenth Air Force has accomplished extraordinary results: Note these statistics:

We have sunk, probably sunk or damaged more than a million tons of Japanese shipping of which ap-

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14th AF Photos

Death of a Jap supply ship. On a sea sweep southeast of Hongkong two B-24 bombers of the 14th Air Force destroyed this 325-foot freighter. Upper—One bomb explodes 40 feet from the vessel and another under the vessel. Center—The geyser-like eruptions meet over the ship. Lower—Explosions within the ship throw tons of water into the air. A few seconds later the crew abandoned ship, the vessel sank rapidly, and the B-24's went on to sink a nearby tanker.

Naval Logistics in World War II

by Vice Admiral F. J. Horne, USN

Vice Chief of Naval Operations

AS Admiral King has pointed out in his report "Our Navy at War," whatever else this war is, it is a war of logistics. This observation serves to emphasize the critical importance of the process whereby the dramatic striking power of our forces is produced. Behind our victories stands a large part of the Naval organization — planners, designers, welders, stevedores, doctors, mechanics and technicians. This is the working Navy from whose energies and efforts the capacity to fight is derived. Its business is logistics — the delivery of men and materials at the right time and at the right place.

Within the Fleet itself the striking force is maintained and supported by the Service Forces, which enable it to fight over sustained periods of time in waters far from its principal bases of supply. In turn these Service Forces must be supported. The network of advanced bases that has been pushed steadily forward into the combat areas constitutes an all-important part of this support.

The process by which a jungle island can be converted in a matter of months into a port having the capacity of that of Philadelphia in peacetime is the result of extensive and closely coordinated planning and execution. These bases are built up of mobile composites in the form of working units designed to do a particular job in a particular place. They are capable of rapid assembly and disassembly, and can quickly be moved forward as the campaign requires. Into them



Admiral Horne

go such components as floating dry docks of all sizes, specially trained SeaBee battalions, Construction battalions, tank farms, airfields and aircraft service units, medical unit—in short all the specialized equipment and personnel which can maintain the fighting efficiency of our combat forces. This is logistics.

The ships and aircraft which comprise the Fleet itself are the product of careful design, thorough experimentation, and constant adaptation to battle experience. When, for example, battle experience demonstrated that battleships were vulnerable to air attack, their anti-aircraft defenses were immediately augmented, until the battleship has become more a threat to than a possible victim of enemy aircraft. Our fire control equipment, search and communications instruments, propelling machinery, armor and ordnance have been brought to such perfection that in the hands of men trained to use them properly they combine to make an unbeatable weapon of attack. We are winning in the Pacific, not only because we have put there more men and materials, but because we have provided better men and materials. This, too, in large part is logistics.

The transportation overseas of personnel and supplies, on schedules fixed months in advance, is a major naval problem in this as in other wars. We know that our men will fight and serve better if their standard of living is higher than the merest essentials. But to supply the fresh foods, the regular mail, the recreational facilities and other items required for this purpose in addition to the great volume of essential military material—fuel, ammunition, vehicles and such—has placed a tremendous load upon the Naval Transportation Service. We have done it, but it has been possible only because we have drained the last ounce out of our transportation facilities. Port facilities here and overseas have been extended to the maximum, and the ships at our disposal have been kept moving. This, too, is logistics.

Battle repairs must be coordinated with new construction so that with the facilities available we shall maintain the maximum operating fleet.

The Navy's logistics task will increase. But it will be accomplished by the same tireless devotion which has carried us thus far. Whether men work or fight, whether they are close to the enemy or not, they are united by a common end—victory and the destruction of our enemy.

Some of the problems of Naval logistics represented in action — a panorama of a portion of the French invasion beach.



U. S. Coast Guard Photo

South East Asia Command

by a United States General Staff Officer on the Staff of Admiral Lord Louis Mountbatten,
Supreme Allied Commander, South East Asia Command

IN May, 1943, the Combined Chiefs of Staff agreed that the vigorous prosecution of large scale operations against the Japanese in South East Asia, the rapid expansion of air ferry routes and the establishments of a land route to China necessitated the formation of the South East Asia Command. At the first Quebec conference in August, 1943, their concept was approved by the governments concerned and Admiral the Lord Louis Mountbatten was appointed Supreme Allied Commander. General Joseph W. Stilwell, in command of all American and Chinese forces operating in Burma and India, and Chief of Staff to Generalissimo Chiang Kai Shek, was appointed Deputy Supreme Allied Commander. It was decided that India would be used as the base for SEAC forces and that administrative control of this base would remain under General Auchinleck, Commander-in-Chief, India.

South East Asia Command consists of vast ocean areas, the countries of Burma, Thailand, Malaya, Sumatra, and the Island of Ceylon. Except for the Himalayas, the area is largely tropical and semi-tropical and saturated with malaria, dengue and other tropical diseases. Monsoons, frequently putting down from three to ten inches of rain a day from the Arakan to North Burma, seriously interfere with operations, especially the logistical support of these operations over long and tenuous lines of communication. These factors together with the large-scale reinforcement of enemy forces in Burma have made South East Asia Command's task very difficult. However, South East Asia Command has contributed to the Allied effort against the Japanese by forcing her to fight and to support a major campaign in a remote corner of her expanded empire.

Operations in the Imphal and Ledo Road sectors were dependent for logistical support upon a small peacetime railroad normally used for hauling tea from Assam to Calcutta. U. S. technical experts assisted

in improving the Assam Line of Communications by providing railway operating and construction personnel, freight cars, locomotives, trucks and engineer units. Even with this assistance, the inadequacies of the Assam Line of Communications together with the floods of Bengal, which frequently breached the rail-

way line, imposed severe limitations on operations. However, terrain, weather, disease, and communications all were obstacles which were overcome through united and determined effort.

Global strategy dictated that Allied efforts be concentrated against the fortress of Europe. As a result, shipping and landing craft which had been allocated to SEAC were reallocated to other theaters. This prevented large-scale amphibious operations by SEAC and the Jap-

anese had to be met where they themselves chose to fight—in the Burma jungles along a 700-mile perimeter.

Major operations in the Arakan commenced in early

February, 1944, and reached a critical stage several weeks later when the L of C of the 7th Indian Division was severed. In the following three weeks transport aircraft not only supplied this division, but it enabled 14th Army to bring in major reinforcements and to decisively defeat the Japanese.

The following month Japanese divisions crossed the Chindwin River to launch an offensive against the Imphal-Kohima area. This offensive carried to Kohima, forty miles from the railroad supporting both the British at Imphal and the Chinese-American forces in North Burma. Transport aircraft again played a major role as the divisions which halted the Japanese offensive were flown into the Imphal plain. In mid-June British-Indian forces, assuming the offensive, commenced the task of regaining the territory lost. This offensive has gone steadily on until the Japanese have been forced back to the Chindwin, having lost nearly three divisions during the campaign.

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Lord Louis Mountbatten, Supreme Allied Commander, South East Asia, with U. S. fighter pilots at an Indian air base on the Burma Front.



Lt. Gen. Raymond A. Wheeler, USA, recently appointed Deputy Supreme Allied Commander in the Southeast Asia theatre.

Naval Ordnance

by Rear Admiral G. F. Hussey, Jr., USN

Chief of the Bureau of Ordnance

THE magnitude of the task of producing sufficient quantities of striking weapons for the Navy, together with the controls for the weapons and most of the Navy's defensive equipment, tends to over-shadow the fact that there have been significant shifts in emphasis and notable developments in naval armament since the beginning of the war. The tactics of fleet operations are constantly changing to meet new situations; the character of naval weapons is no less fluid. Ordnance developments have paralleled and, in many cases, anticipated the problems of the fleet.

In the early part of the war the most critical specific problems facing the Bureau of Ordnance, aside from the overall problem of industrial conversion, were those of increasing and improving the anti-aircraft weapons for both naval and merchant vessels; modernizing ordnance on existing ships; meeting armament requirements for the tremendous new ship and plane construction programs; and developing and supplying weapons for anti-submarine warfare.

All of these continue to be major programs, and their success is reflected by the accomplishments of the Fleet in all theaters of war. In the field of anti-aircraft defense, the development, rapid production, and installation of the 20 mm and 40 mm guns with their sights, power drives and directors, together with the 5"/38 gun and associated equipment, have made possible the freedom of ship movement which our task force and unit commanders enjoy in waters where the Japanese have substantial air coverage. The 40 mm gun and equipment program is still one of the Bureau's most urgent. The armament of landing craft and demands from many types of ships for increased batteries of this weapon have resulted in a steadily expanding production. Successes against enemy submarines in the Atlantic, together with the gradual restriction of Japanese naval operations, have served to ease the pressure on the production of anti-submarine weapons. Yet, in the anti-submarine, as in the anti-aircraft program, our efforts are bearing real fruit.

With the shift from a limited offensive to rapidly accelerating offensive operations, our emphasis has naturally been placed on the striking weapons for the Fleet. The production of high capacity (bombardment) ammunition has been increased tremendously during the past twelve months. Three times as much high capacity ammunition for cruisers and battleships

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Rear Adm. Hussey

Army Ordnance

by Maj. Gen. L. H. Campbell, Jr., USA

Chief of Ordnance, U. S. Army

DURING the first five months of 1944, Army Ordnance shipped enormous quantities of weapons, ammunition, bombs, vehicles and spare parts to the European and Mediterranean theatres of operation. Mammoth overseas Ordnance depots were crammed with millions of items for the liberation forces of Gen. Eisenhower and Gen. Patch. An incredible number of all types of automotive equipment—jeeps, tanks, half-tracks, armored cars, 40-ton tank recovery vehicles—were assembled in vast marshalling yards in the British Isles and Italy in readiness for the triphibious attack on Fortress Europe.

Superbly trained Ordnance combat troops helped to spearhead the highly successful assaults in western and southern France. Those assigned to airborne divisions that were dropped behind enemy beach defenses rounded up valuable ordnance supplies from parachutes and gliders; assembled guns and distributed them to the front line units; checked airborne tanks and other vehicles; and maintained and repaired the battle weapons and equipment of these pioneer divisions.

Later on D-Day, other Ordnance men hit the beaches, immediately set up field camouflages, and began the dual job of servicing the troops and storing the ammunition that was coming ashore in ever increasing quantities. On D-Day plus 1 they had recovery vehicles in operation and were pulling up all sorts of automotive equipment that had been abandoned, hit by enemy shells, or stuck in the water. Ordnancemen recovered many vehicles under constant shell-fire and, under the most difficult circumstances, were able to put three-fourths of them back into operation. As additional Ordnance troops raced ashore from landing craft, operations were expanded to include the repair of machine guns, rifles and other small arms weapons. As soon as the beachheads were consolidated and the troops moved inland, Ordnance established channels of supply leading from the beaches right up to the rapidly advancing front lines.

Meanwhile, the enemy was subjected to the deadly firepower of American armor — light tanks that packed the wallop of mediums, and medium tanks with the knock-out punch of heavies. Speedy light tanks, for example, were armed with 75-mm guns, while General Shermans roared into action with high velocity 76-mm and 90-mm guns and 105-mm howitzers.



General Campbell

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Engineers on the Job Bases to Beat Japan

by Major General Eugene Reybold, USA

Chief of Engineers, U. S. Army

by Vice Adm. Ben Moreell, (CEC), USN

Chief, Bureau of Yards and Docks

FOUR years ago there were in the Army of the United States less than a dozen Engineer troop units, many of them incomplete and lacking specialized personnel for full effectiveness in the field.

Today there are more than 1800 Engineer troop units, the great majority of which are already overseas and on the job. The names alone of these 1800 units indicate the great variety of functions which in today's Army are carried out by Engineer troops.

For the Army Air Forces, for example, there are Engineer Topographic Special Companies, Engineer Camouflage Battalions, Engineer Fire Fighting Platoons, Engineer Aviation Regiments, and Airborne Engineer Aviation Battalions. Assigned to the Army Ground



MAJ. GEN. REYBOLD

Forces are Engineer Combat Battalions, Armored Engineer Battalions, Airborne Engineer Battalions, Engineer Mountain Battalions, Engineer Squadrons, Light Ponton Companies, Heavy Ponton Battalions, Treadway Bridge Companies, Light Equipment Companies, Maintenance Companies, Depot Companies, Water Supply Companies, Camouflage Battalions, and Topographic Companies, and Topographic Battalions, in addition to

Engineer Headquarters units.

The Army Service Force Engineer units are the most varied of all. The Engineer General Service Regiments, Special Service Regiments, and Construction Battalions have been supplemented with such specialized units as: Engineer Port Construction and Repair Groups; Port Repair Ship Crews; Engineer Base Topographic Battalions; Parts Supply Companies; Base Depot Companies; Engineer Petroleum Distribution Companies; Engineer Heavy Shop Companies; Base Equipment Companies; Engineer Forestry Companies and Forestry Battalions; Dump Truck Companies; the Engineer Special Brigades, including Boat Battalions, Shore Battalions, Boat and Shore Regiments, and Boat Maintenance Battalions; Engineer Special Shop Battalions; Engineer Gas Generating Units; Engineer Foundry Detachments; Engineer Model-Making Detachments; Engineer Utilities Detachments; Fire Fighting Platoons; Map Depot Detachments; Mobile Searchlight Maintenance Units; Dredge Crews, and Survey Liaison Detachments.

Even though we have been one of the fastest-growing of any of the Army's arms or services, we are having to push constantly to fill overseas requests for Engineer units in time to meet operational requirements.

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THE experience which the Navy's Seabees and their Civil Engineer Corps officers have gained in the construction of advanced bases all the way from the Society Islands to the Marianas can be expected to pay important dividends as our ring of bases is drawn tighter around Japan. This experience presages greater speed in construction, and speed will become increasingly necessary in view of the fact that Japan's shortened defense lines will enable the enemy to attack our construction more effectively.

It will be of utmost importance to repair and rebuild captured Jap air fields fast enough to base planes for their defense before Jap air power can strike back. In other words, the vulnerable period between the time the base is captured and the time it can be built up for its own defense must be, and will be, reduced to a minimum. A glance back at the record of the Naval Construction Battalions supports this conviction.

The first test of their speed came in the early summer of 1942 when the Seabees on Espiritu Santo found themselves in an airfield construction race with the Japs on Guadalcanal. Whichever completed its bomber field first would be able to attack the construction efforts of the other. The Seabees won, and American bombers from Espiritu aided in the invasion of Guadalcanal.

Hardly had the invasion been launched when construction speed was again paramount. The Seabees and the Marine Aviation Engineers were obliged to work at frantic speed to complete Henderson Field for the defense of Guadalcanal against determined enemy counterattacks. And hardly was that job completed, than the Seabees were racing to construct companion fighter strips to provide necessary fighter plane protection for the bombers.

The pattern repeated itself as our forces leapt along the islands to the northwest. A fighter strip on an island in the Russells was hacked out of dense jungle in 13 days despite practically continuous torrential rain, and from it fighter planes were able to rise as escorts for Guadalcanal bombers attacking Munda. And for the final assault on that Jap base, another fighter field on New Georgia was carved out of a coconut grove in just under eleven days. When Munda fell, its bomb smashed airstrips were repaired sufficiently to receive planes eight days later.

Speed continued to be a vital factor in the construc-

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VICE ADM. BEN MOREELL

Photography's Part in War

IN war, as in the pursuits of peace, the ancient adage "a picture is worth a thousand words" is applied every day, for photography is used by every branch of the armed forces. Some is for the purpose of observation and reconnaissance, to observe enemy dispositions and installations, and to check up on damage our forces has inflicted on the enemy, but a great deal is for the purpose of future training and to check up on our own activities and their effectiveness. Some, too, is for historical purposes and to keep the folks back home informed of what our forces are accomplishing in the field.

Many specialties have vastly broadened the field of photography and increased its value. Night photography from the air, by a completely automatic process, is employed, particularly by the British Royal Air Force, for the purpose of

checking up on night attacks. In this process a magnesium flash-bomb explodes just above the target and illuminates it just before the bomb hits. The records made by this means are invaluable in checking up on damage accomplished and working out improved methods of operation.

Another valuable specialty is the three-dimensional process, by means of which land details and the position of enemy installations are shown more clearly than on a conventional photograph. By their means good landing points on enemy beaches and folds in the ground for providing protection against enemy machine-gun fire are disclosed clearly.

In the Navy motion pictures are taken of all actions for review by headquarters, especially of land assaults by the Marine Corps.

Before the Normandy operation, SHAEF had a huge aerial photographic map of the entire section of the coast where the landing operations were to be conducted. Each subordinate commander was given a detailed one of the area in which he was to operate. By this means those in charge of the landings were enabled to familiarize themselves thoroughly, in advance, with every crevice and roll in the terrain over which they were to proceed in ousting the Germans from their strongholds.

In the Marine Corps and Coast Guard, too, combat photographs have contributed immeasurably to the preservation of these fleeting moments of warfare, subsequent study of which guides and improves our future operations. Truly, by these means, photography is contributing to victory.

Round the World Weather Forecasting

JUST as the strategical timing of wars is influenced in a large measure by the seasons of the year, so does the day to day weather influence the local tactics. In today's war, with air and amphibious operations playing such a large part, weather and weather forecasting have become more important than ever before, with the result that virtually no tactical move is undertaken without consulting one or more of the weather forecasting agencies.

The most spectacular example of this was the timing of the invasion of northwest France, when General Dwight D. Eisenhower had to gamble with the weather and tides to launch the greatest over-water offensive in history.

The operation of long distance bombing raids both in the Pacific and over Europe, as well as the day by day maintenance of schedules by the Air Transports of the Army and Navy require the most accurate of

forecasts. For this purpose the Army Air Forces Weather Service operates far flung weather stations around the globe, and the Aerological Section, Office of the Chief of Naval Operations for Air, and the routine weather activities of the fleet keep constant check for special Navy needs. When we are in contact with British forces we also have the advantage of information from the Meteorological Office of the Air Ministry.

In the continental United States, the Army Air Forces Weather Service cooperates closely with the Weather Bureau, particularly in the operation of the newly organized Severe Storm Warning Service, designed to protect lives and property in the interior of the United States from the ravages of freakish weather. This new service warns the public, Army and Navy installations, and industry of the approach of unexpected storms. It is a joint

undertaking of the AAF Weather Service, the Government Weather Bureau and the Office of Civilian Defense. In general, the Weather Bureau is handling the warning service for the civilian enterprises such as industrial plants while the Army Weather Service takes care of Military installations, including air bases, posts, camps, arsenals, general hospitals, chemical warfare camps, and ordnance plants.

Storm danger predictions have many values, among them: aircraft in the open can be hangered or flown out of the danger area; planes in the air may be directed to alternate fields if storms threaten their home bases; personnel can be evacuated from barracks and other installations if a tornado is approaching; power lines and gas may be shut off before a destructive storm hits; the public can be warned; munitions factories may take extra steps to guard against explosions.

The National Guard — Present and Future

by Major General John F. Williams, USA

Acting Chief, National Guard Bureau

"AN Army of this type has, among others, the following advantages:



Maj. Gen. Williams

"And finally, as all our great wars have been fought in the main by citizen armies, the proposal for an organized citizen army reserve in time of peace is merely a proposal for perfecting a traditional institution to meet modern requirements

which no longer permit extemporization after the outbreak of war. This is the type of army which President Washington proposed to the First Congress as one of the essential foundations of the new American Republic. This is the type of army which, in the absence of effective peacetime organization, had to be extemporized to meet our needs in World War I and World War II.

"Details of military organization change with changes in weapons, modes of transportation, and international relations. But the type of our military institutions was determined in the beginning by the form of our Government and has not changed since Washington's Administration. It will, therefore, be made the basis for all plans for a post-war establishment."

When the Chief of Staff, on 25

August, officially published the above statement as part of a pronouncement of the "General principles of national military policy to govern preparation of post-war plans," a definite and concrete guide was furnished which departed from the field of conjecture and assumptions and gave those engaged in post-war planning something into which they could sink their teeth.

Post-war problems of the Army have been under consideration for many months by a well organized special division of the General Staff. Any departure from established law, regulations or traditions in such planning would, necessarily, be made on assumptions of radical changes in the existing basic laws and regulations, and traditional policies. Outside the confines of

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The Reserve and ROTC—Present and Future

by Brigadier General Edward W. Smith, USA

Executive for Reserve and ROTC Affairs

WITH one single important exception, the problems confronting the War Department in this war were not unlike those faced in World War I. In 1917, 3,500 Reserve officers were available for immediate service. In 1940, however,



Brig. Gen. Smith

the Officers' Reserve Corps numbered 120,000 officers. The difference had a profound bearing in mobilizing, training and composing units for the enormous combat forces now engaged throughout the world.

The National Defense Act of 1916, as amended in 1920, provided for an Officers' Reserve Corps and an Organized Reserve designed to create a balanced force of combat and service units, with a full authorized strength of Reserve officers and key noncommis-

sioned officers, and enlisted specialists of the Enlisted Reserve Corps. These units were organized but were composed almost entirely of Reserve officers, since a system of Universal Military Training was not provided and hence an active Enlisted Reserve Corps did not exist.

The Officers' Reserve Corps was created for the purpose of having available for immediate assignment a sufficient number of trained officers to enable rapid expansion to full strength of the Regular Army, to provide officers for the National Guard in the active Federal service, to officer the units of the Organized Reserve, and to fill important, key staff positions.

In 1940, for the first time in the Nation's history, the Congress enacted a system of military training in peacetime, known as the Selective Training and Service Act. In carrying out the training program provided for in this Act, it was necessary to order to extended active duty thousands of Reserve officers in order successfully to carry out the War Department obligation. This resulted in assigning from the Organized Reserve units the largest portion of the junior

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The Army Medical Department in Action

by Major General Norman T. Kirk, USA

The Surgeon General

THE Medical Department of the Army has met successfully and will continue to meet the heavy demands which the tremendous expansion of our offensive operations has placed upon its officers, nurses and enlisted men in caring for American sick and wounded.

The whole plan of the medical service in the fighting areas is based upon the principle that the sooner a wounded man receives first aid, followed by surgery and post-operative treatment, the better are his chances for recovery. The soundness of that principle when put into practice is seen in the fact that 97 percent of our wounded who are admitted for



Maj. Gen. Kirk

hospital care recover from their injuries. The greatest single life-saving factor in the care of men struck down on the battlefield has been prompt and skillful surgery. Frontline surgery has become a reality with highly mobile surgical teams attached to field hospitals to keep pace with the swift movement of our modern Army. Surgical teams are sent wherever the greatest number of casualties seem probable and often do their work well within the range of enemy fire. Enlisted men of the Medical Department are with the line troops in an attack, and in the fighting in France 80 to 90 percent of the wounded have received first aid from a medical soldier within 10 minutes after they were hit.

The military surgeon has been greatly aided by having at his disposal adequate quantities of blood plasma and whole blood to reduce shock, and plenty of penicillin and the sulfa drugs to check and prevent infection. But without attempting to detract in the least from the value of these life-saving supplies, it is nevertheless true that they are essentially adjuncts to the prime requirement—skilled surgeons qualified to apply the latest and most modern surgical techniques.

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Chemicals In War

by Major General William N. Porter, USA

Chief of the Chemical Warfare Service

CHEMICALS are not only helping win this war, but they are definitely speeding the ultimate Victory. Their role in battle becomes increasingly effective as well as dramatic, thereby demonstrating a military utilization of chemical agents on a scale never before approached in history.



Maj. Gen. Porter

Reports from all fronts are vivid reminders that this

conflict is, to a large extent, being fought with chemicals. Sea, land, and air operations are becoming more and more dependent upon the "chemics," their weapons and their munitions. The proved value of chemical troops and materiel in support of all arms is inviting a new appreciation of chemical warfare in its many applications and implications.

Combat activities by the Chemical Warfare Service fall into two major classifications—flame and smoke. The former category embraces the use of a variety of offensive fire weapons, from aerial incendiaries to the flamethrower. By the same token, smoke covers a variety of ground, aerial, and amphibious screening operations. Thus, on the one hand, we have chemical fire searing the enemy and his production facilities while, on the other

hand, chemical fog protects American lives and property. Meanwhile, though war gas continues to remain on the shelf as far as the United Nations are concerned, the United States Army is adequately stocked, well trained and immediately ready for any necessary retaliation.

So far, the outstanding Chemical Warfare implements of the present conflict are the following listed:

4.2-inch chemical mortar

Smoke generators and smoke pots

Aerial incendiary bombs

Flamethrower.

All of these items are made or filled—and some of them actually used—by the Chemical Warfare Service. Not one of them had a comparable counterpart previously, and all continue to be improved as the offensive progresses.

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War-time Shipbuilding by the Navy

by Rear Admiral E. L. Cochrane, USN

Chief of the Bureau of Ships

IN last year's issue of UNITED STATES AT WAR, the far reaching effects of the present war on the design of naval combatant ships were discussed. These effects ranged from the development of completely

new types of ships, such as landingcraft, to improved versions of well established types where, with the elimination of the restrictions of the various naval limitation treaties, the designers' point of view was per-

mitted to expand from one of striving to achieve the best possible ship within the prescribed size limitations to one of selecting the most desirable combination of basic characteristics, with size having to be considered as only one of the variables in the problem. Many design modifications were incorporated in vessels already in service, as well as in those under construction. For example, there were marked increases in antiaircraft batteries, the development of new uses for radio, the provision of improved watertight subdivision, enhanced protection against bombs, shells and torpedoes, and the development of satisfactory fire-fighting equipment and procedures.

Today we are nearly three years removed from the attack on Pearl Harbor. Our new ship designs and modification plans have now largely been translated into ships in actual

service. Accordingly, now that we have reached the peak of the naval shipbuilding program, it may be appropriate to look back over the progress that has been made since the inception of that program.

Concurrently with the development of the designs for our greatly expanded navy, plans had to be drafted and placed into effect for the production of the many ships of various types that were required. This work started long before our entry into the war. It will be remembered that, in June 1940, Congress passed the 11% Expansion Act and, in July of the same year, after the fall of France, the 70% Expansion Act. Almost overnight these two acts increased the authorized combatant tonnage of the Navy by nearly 1,500,000 tons. At the time there were but eight Navy

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Rear Adm. Cochrane

mitted to expand from one of striv-

The Signal Corps in 1944

by Major General H. C. Ingles, USA

Chief Signal Officer, U. S. Army

DURING the past year the Signal Corps has faced and fulfilled the heaviest responsibilities in its history.

On all fronts and under all conditions it has met the supreme test — the test of battle—with courage and, I believe with competence. It is the nerve center which coordinates the striking power of our armies and has become the largest communications organization the world has ever known.

By now every reader of the ARMY AND NAVY JOURNAL knows the staggering task which confronted the Army after Pearl Harbor—the immediate necessity of holding our enemies on several fronts, the vast

logistical problems, the problems of personnel, procurement, supply and training, all of which demanded overnight decisions and an immediate expansion of facilities that, at times, seemed almost impossible of attainment. In brief, the pressure was definitely on the Army, including the Signal Corps. The country, largely oblivious to the problems involved, placed absolute faith in its military establishment and that faith has been completely justified.

The present war did not alter the mission of the Signal Corps as the communications agency of the Army. Its primary responsibilities were not changed. Its basic functions remained: to develop, procure, supply, install and operate communications equipment for the Army, to train specialists and to carry out the scores of related activities it performed in days of peace.

But the war so expanded the scope of the Signal Corps' task, so multiplied its operations, so magnified the demands upon it that even a brief recital of its major activities would require more space than could be allotted to me here.

In administering the multi-billion dollar undertak-

(Continued on page 122)



Maj. Gen. Ingles

Women's Army Corps in 1944

by Colonel Oveta Culp Hobby, GSC

Director, Women's Army Corps

IN the two and a half years since its inception as an Auxiliary, the Women's Army Corps has undergone growth and development and necessary change which on a smaller and more limited scale,

is comparable to the story of our entire Army.

Today, we feel that the WAC has settled and grown into its proper place as an integral part of the whole Army framework. It is not a Corps set apart, but 90,000

women, each

fitting into the Army as an individual possessing some one or more skills needed to help make up the vast organization of skills which is our wartime Army.

Over a period of time, the women have acquired the training and the feeling for military teamwork and tradition which enables them to fit as naturally into the Army organization as men assigned to similar duties. Their experience has paralleled in a way that of the earliest selectees brought into the Army in this war. Just as those first selectees were trained by capable and willing, but not always optimistic, professional soldiers, so our women have been trained by capable and willing, but not always optimistic Army men, to take over Army duties that were strange to them. Just as those first men were trained and assigned to gaps in our Regular and National Guard units, so our women have been brought in and trained to fill other gaps.

The gaps our women fill today are in those noncombatant jobs where women's hands and women's hearts fit naturally. There are many jobs in the Army. Some only our men can do. Some, women can do as well

as men. Some, women actually can do better than men. Our attempt has been to reserve the WAC primarily for those jobs which women can do actually better than men—clerical work, for example. But again, the Women's Army Corps is 90,000 individuals of widely varied skills and civilian training. The Army is entitled to and does utilize these skills wherever the individual Wac (not just women generally) is needed most and can do the best job.

As a consequence, Wacs are now doing 239 classifications of Army work. By the natural process of training and experience, they have branched into many fields which

were not planned for them in the beginning, but in which the Army has found them capable and trustworthy as any soldier. Now on many noncombatant jobs, the assignment of new or replacement personnel is determined solely by the availability of necessary skills. Woman soldier or man, woman officer or man—it makes no difference.

This absorption into the Army on the very natural basis they knew in the home and in the civilian office has done much to strengthen the pride of women in the Army and to increase their effectiveness in the

(Continued on page 126)



Colonel Hobby

The Women Marines

by Colonel Ruth Cheney Streeter

Director, Marine Corps Women's Reserve

THE close of the year 1944 marked almost two full years of existence for the Marine Corps Women's Reserve.

It also marked the beginning of a new phase of its service—overseas duty. For late in September, Congress passed, and the President signed, the long awaited bill authorizing women Marines to serve outside the United States within the American area and in Hawaii and Alaska.

Machinery was immediately set in motion to implement the new law. A preliminary survey of living accommodations and possible assignments was made by two women officers sent out in October from Headquarters, Washington, D. C. Tentative plans already made called for the assignment of approximately one thousand enlisted women to duty in Hawaii—these to be preceded to the Islands by a group of women officers. Selection for overseas duty was to be based in part on length of service in the Corps and on qualifications for the assign-

ments to be filled. As was specified in the law, no woman was to be ordered outside the United States without her consent.

Thus, at the close of their second year, there opened for the women Marines a broad new avenue of service.

Their first year had been, of necessity, largely one of planning, policy-making, organizing, recruiting, and training. At the same time, many thousands of Marine women had gone forth from "boot" camp and specialist schools to fill needed assignments.

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Colonel Streeter

The Women's Reserve of the Navy

by Captain Mildred H. McAfee, USNR

Director of the Women's Reserve, U. S. Naval Reserve

THE scope of service of women in the Navy has expanded beyond anyone's expectations in the past two years and a half. Members of the Women's Reserve are working in almost every phase of the Navy's activity in the shore establishment at home, and preparations are underway for volunteers to be assigned to shore stations outside the continental United States in the American area and the territories of Hawaii and Alaska. Enlisted women hold more than thirty-five different ratings and already a small number have attained that of chief petty officer. Officers have assumed increasing responsibilities in

both technical and administrative fields. This has been a challenging period of growth in which women have discovered that there are many types of activities to which their civilian or Navy-acquired skills may be adapted.

The ratings for which women may work represent those for which they can meet all the qualifications with the exception of sea duty requirements. The majority of enlisted women are serving as yeomen and storekeepers in the variety of jobs which are so necessary to keep Naval activities functioning. The next largest group are in the Hospital Corps, serving in Naval hos-

pitals from coast to coast, and playing a vital part in returning to good health Navy men who have been injured in battle. These WAVES not only work in the wards and the offices, but in the clinics, the laboratories, and the therapy departments.

A large number of WAVES are assigned to aeronautics. They participate in virtually every phase of life at an air station. From the time that they see that the planes are ready for daily flights,

to securing the planes in the evening, WAVES may be found in the aerology departments, the parachute lofts, the control towers, and the hangars. Some are participating in the training of fliers and future air crewmen. Two officers and one enlisted woman have been awarded the French Cross of Lorraine in recognition of their services in helping to train French pilots at Pensacola, Florida.

Some enlisted women are teaching anti-aircraft gunnery to armed guard crews, others are repairing aerial cameras. They are serving in communications as radiomen and telegraphers. Many are mail clerks, and women constitute approximately one-sixth of the total personnel handling Navy mail in the continental United States.

Officers have entered many new fields. There are today more women officers in the Supply Corps than there were officers of the regular Navy in that Corps before the war. This past year has seen the first women become members of the Dental Corps, and the number of doctors in the Medical Corps is increasing. A

(Continued on page 128)



Captain McAfee

The Spars Second Year

by Captain Dorothy C. Stratton

Director, Women's Reserve, U. S. Coast Guard Reserve

NINETEEN hundred and forty-four was a year of growth and fulfillment for the Women's Reserve of the U. S. Coast Guard. During the past twelve months, when an unprecedentedly high percentage of male Coast Guard personnel has been on active sea duty, the SPARS serving ashore, ad-

not only disappeared but has been replaced by enthusiastic acceptance of SPARS. The women, for their part, have responded wholeheartedly and earnestly to the show of confidence by accepting the challenge of often difficult training courses and new responsibilities.

Among important developments of the SPARS' past year has been the removal of Congressional opposition to overseas service. The passage of the bill authorizing women to volunteer for duty in the American Area, Hawaii and Alaska resulted in a large number of SPARS volunteering for duty at Coast Guard bases in Hawaii and Alaska. 1945 will probably see several hundred SPARS on duty in Pearl Harbor, Juneau and Ketchikan, Alaska.

The activities of SPARS on duty in each district are now coordinated by a Women's Reserve personnel officer. These officers, assigned last spring, represent a forward step in the Administration of the Women's

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vanced from experimental status to one in which their value and capabilities were fully recognized. Understandable skepticism as to the wisdom of enrolling women in a seafaring service that has been exclusively male for more than 150 years, has



Captain Stratton

Our Atlantic and Pacific Sea Frontiers

by Vice Admiral Herbert F. Leary, USN

Commander, Eastern Sea Frontier

THE Battle of the Atlantic, which for four years played a major part in the strategy of both the United Nations and the Axis, has been won. Its winning was a necessary preliminary to the battle of Europe, since until the sea lanes between our east coast and the United Kingdom had been opened the tremendous movements of men and material essential to the invasion would have been prohibitively hazardous.

The battle of the Atlantic—the battle against the German submarines—was fought in many and shifting areas. Prior to our entry into the war, this crucial battle centered in the waters around the British Isles. Upon our entry, and for many months thereafter, its center was off our own east coast, within the area for which the Commander, Eastern Sea Frontier, was responsible. In the spring of 1942, the Nazis shifted their major striking force to United States coastal waters. Shrewdly, they struck where we were weakest, and the greatest shipping losses of any month during the long, bitter struggle occurred in March, 1942. During that month, more than half the world's sinkings of merchant ships occurred within the offshore limits of the Eastern Sea Frontier.

To meet this attack, we had desperately limited resources. Our destroyer fleet, since grown to such tremendous proportions, was then inadequate to the tasks presented by a war which flared around the globe. It was necessary to improvise and the story of that improvisation, too long to be more than suggested here, is one which must have an important place in the Naval history of this war.

Administratively, the Eastern Sea Frontier was ready. The imminence of war had long been apparent; in the summer of 1941 the coastal frontiers were organized and training for the impending task begun. In February of 1941, the Eastern Sea Frontier was constituted as it now is, with officers and men already familiar with their duties and the machinery of administration fully oiled. But the lack of tools for the work was still for many months a grave handicap in the battle.

From the beginning, the Army and Navy worked in closest harmony. Until rather recently, when the Navy was equipped to take over in its entirety the off-shore air patrol, Army bombers patrolled constantly, seeking out the U-boats, attacking them when attack was

(Continued on page 124)

by Vice Admiral D. W. Bagley, USN

*Commander, Western Sea Frontier**

THE Navy's Sea Frontier establishments came into being as a result of operational and administrative problems arising out of the complex needs of modern war. Certain of these needs, it appeared, could be serviced most effectively by a specialized type of naval area command, essentially independent, yet flexible enough to function in active coordination with contiguous Fleet, Naval District, and Army Defense commands.

This concept now has had a thorough test and period of seasoning in time of war on both our mainland coasts. The practical results have been most gratifying.

The Western Sea Frontier may be cited, I believe, as a typical example. While it is primarily a sea command, it also embraces certain jurisdictions over the land area of the Eleventh, Twelfth, and Thirteenth Naval Districts — practically coterminous with the Army's Western Defense Command. In this considerable mainland territory, the Frontier

serves as the coordinator between the District commandants and other Naval commands. It further represents the Navy in matters of defense, administration, training areas and the like when cooperation with the Army is required.

The Frontier's interests and responsibilities at sea cover three million square miles of the Pacific, extending from the Canadian border to Guatemala and, westward, about half way to Hawaii. It is charged with the protection and control of convoys and shipping in general, as well as with rescue efforts on behalf of endangered aircraft, vessels, and personnel.

Additional functions include the maintenance of plane guards on the airways, weather ships, and the furnishing of fleet services such as towing, supplying targets, and escorting submarines.

Inasmuch as the Frontier has been a product of the present war, its development and present organization have been effected along functional lines. Necessarily, the Frontier employs a suitable force of destroyers, frigates, patrol craft, submarine chasers, minesweepers, rescue tugs, blimps, and planes.

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*On 15 November 1944, Vice Admiral Bagley became Commander Hawaiian Sea Frontier. Admiral R. E. Ingersoll, USN, succeeded him as Commander Western Sea Frontier with the additional duties of a Deputy Commander in Chief U. S. Fleet and Deputy Chief of Naval Operations.



Vice Adm. Leary



Vice Adm. Bagley

The Eastern Defense Command

by Lieutenant General George Grunert, USA

Commanding General, Eastern Defense Command

THE Eastern Defense Command has grown since its activities were reported in the last annual edition of the *Army and Navy Journal*. Then it comprised sixteen Eastern Seaboard states, the District of Columbia, the northern Bahamas, and the bases at Newfoundland and Bermuda. Now it extends across the Continent from the Rockies to the Atlantic Coast and far out into the ocean to include the Greenland and Iceland Base Commands.

The continental boundaries were pushed westward on 15 January 1944, when the Central Defense Command was absorbed by the Eastern Defense Command, and to the original sixteen states were added West Virginia, Ohio, Indiana, Kentucky, Michigan, Wisconsin, Illinois, Iowa, Missouri, Minnesota,

North Dakota, South Dakota, Nebraska, Kansas, Wyoming, and Colorado.

The Iceland Base Command, most distant of the bases taken over during the year, became a part of the Eastern Defense Command on 1 August 1944. The Greenland Base Command passed to this Headquarters on 1 September 1944. Like our other bases, these are important links in the skyway traffic system over which the Air Transport Command operates with consummate efficiency.

Three quarters of America's population lives within the Eastern Defense Command's continental area. Here are great industries whose production is so vital to a nation at war. Here are natural resources which industry requires to fabricate the weapons and

the goods for our own armies and those of our allies in the Atlantic and Pacific theaters. Here are key Army and Navy installations. Here are shipyards and ports from which essential supplies move in a steady stream to distant battle-fronts.

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Lt. Gen. Grunert

The Western Defense Command

by Major General Charles H. Bonesteel, USA

Commander, Western Defense Command

THE western portion of the United States, furnishing a mainland base of operations for our war effort in the Pacific, possesses more

than 2,700 miles of coastline stretching from Canada to Mexico. This coastline carries with it a vast responsibility of defense and guardianship. The responsibility for this defense

the Western Defense Command, United States Army.

With our two good neighbors, Canada and Mexico, both adjacent to its area, the Western Defense Command is charged with the coordination of defense measures and with intimate liaison with the military commanders of defense areas in the Dominion of Canada and the Republic of Mexico. Through the years of the war, there has been built up an intimate and close relationship based on mutual understanding and mutual assistance. All of our contacts have been marked by great friendliness and helpful cooperation.

As the war has progressed, there has been a steady improvement in the military situation of the West Coast. This welcome improvement has not, however, eliminated the danger of possible enemy action.

The officers and men of the combat units of the Western Defense Command have shown most commendable zeal in maintaining their various defense activities, in a high degree of readiness. This, notwithstanding the fact that a lessening of the danger has tended to make the task a less interesting one, and the pressing need for personnel for overseas has required the reduction of forces to the extent that every man is required to perform the duties and functions of several men.

The past year has been marked by the installation of many new weapons, the improvement of existing equipment and weapons and the integration of plans so that the command would be able to perform its assigned mission in case of hostile attack.



Maj. Gen. Bonesteel

is shared jointly by the Western Sea Frontier, United States Navy, and

Serving the Armed Forces

by Basil O'Connor

Chairman, American Red Cross

THE privilege of serving the military forces of the United States in the name of all of our citizens was given to the American Red Cross during World War I.

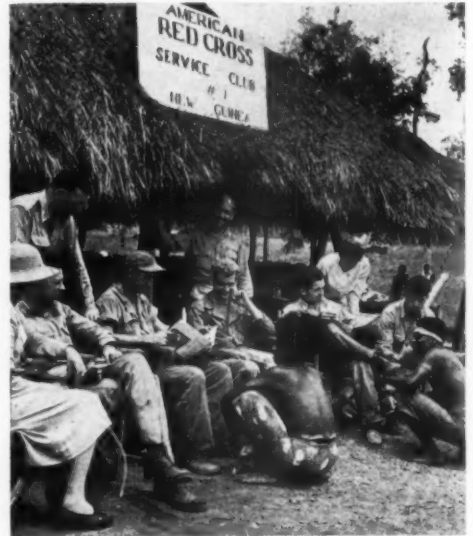
Under U. S. Army* and Navy regulations,** more recently issued, the Red Cross today has almost 7,000 trained men and women sent from home to serve with Army and Navy units in all major theaters of war and in all of the outposts where our forces are located.

Red Cross field directors, hospital medical social workers, and hospital recreation workers have been an institution with our peace-time Army and Navy since 1917-1918.



Basil O'Connor

These workers, greatly augmented in numbers, carry on this traditional service today on every active battle front, in staging and training areas, in the remote island stations. The men, who are field directors (many World War I veterans) have gone with their military units in landing operations — whether paratroopers, amphibious landing forces, infantry, artillery or aviation. Primarily the field director
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* AR-850-75. ** NR-1920-1470-78.

The OWI and Psychological Warfare

by Elmer Davis

Director, Office of War Information

THE Germans got a head start on us in psychological warfare, just as they did in the more conventional military arts. They spent

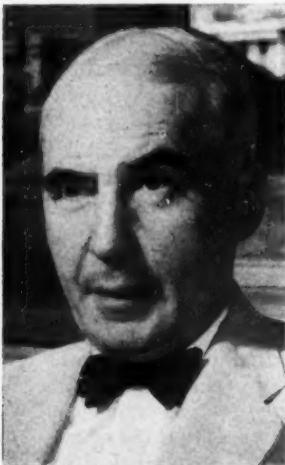
huge sums on propaganda directly associated with their military plans and activities, using the "strategy of terror" with telling effect on their expected victims and the "strategy of deceit" on all the rest of the world.

It took the Allies some

time to catch up with the Germans in this field but there is no doubt that we finally achieved that objective. While we always spent less money than did the Germans, by the time we had our propaganda under way we had the advantage of a rapidly improving military situation which made our psychological warfare problems progressively less difficult. We could employ the "Strategy of Truth," the only strategy appropriate for democracies, with increasing effectiveness. There have been repeated testimonials by allied military leaders to the influence of this "attack on the mind" of the enemy in hastening the downfall of the German military machine and the production power of the German war plants supplying it. The "attack on the body" of the German soldier had to be made with crushing force to break down his fanatical resistance but this resistance be-

came less fanatical as the essential hopelessness of his position was conveyed to him by propaganda warfare.

The major responsibility for this psychological campaign has been the Office of War Information's. While the work in the major European theaters has been under military command and the staff has included a considerable number of British and American army people as well as civilian personnel of the British Ministry of Information and Political Warfare Executive, the OWI group has probably been the strongest single influence in the activities. The Psychological Warfare Branch of Allied Force Headquarters in the Mediterranean theater and the Psychological Warfare Division of the Supreme Headquarters Allied Expeditionary Force in northeastern Europe have carried
(Continued on page 132)



Elmer Davis

Navy Public Relations

by Rear Admiral A. S. Merrill, USN

Director, Office of Public Relations, Navy Department

THE pressure of the work in the Office of Public Relations is a pretty good barometer of public interest in the Navy. Today that pressure is way up. With more men in Navy blue than ever before in his-

tory, every town in the country has sons in the Service. Added to this personal interest is the widespread realization of the tremendous significance of the Navy's present operations to the outcome of the war. The American people want

to know about their fighting men. They want to know how their war on the high seas is being fought. It is our task to supply this information.

The pressure is up but, paradoxically, the job is easier. Two years of war have taught the press, the public, and ourselves much about that extremely complicated job which we lump under the head of Navy Public Relations. The press has learned by intimate contact with the Services some of the delicate problems of military security which must be faced. Without the cooperation which the working press, editors and publishers alike, have given us, the task of this Office would have been infinitely more difficult. The public, in turn, has learned to appreciate that it is not the whim of some mythical brass hats that sometimes delays news, but reasons involving the lives and safety of their men in the Navy. The tremendous confidence and support

the American people are giving their Navy today are the most heartening aspects of our job. We of the Office of Public Relations have also learned much: much of how we can help to improve coverage of Navy activities, dig out the obscure stories, speed the transmission of news, minimize the burden of censorship.

With these three factors in our favor, it is not surprising that our work for the past twelve months has been easier even while it has been greater. And it certainly has increased tremendously. Statistics are dry things, but perhaps a few figures will aid in giving an idea of the variety and the amount of work covered by the activities of this office. All of these figures refer to the fiscal year which ended on the 30th of June 1944.

In that time, we published 100 Navy Department communiques;

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Rear Adm. Merrill

Keeping the Home Front Informed

by Major General A. D. Surles, USA

Director, War Department Bureau of Public Relations

ONE day last May a group of war correspondents assembled at SHAEF, Supreme Headquarters, Allied Expeditionary Force, in Great Britain. There were eighty-eight allied journalists packed into

that room — press and radio correspondents, camera men — most of them with by-lines already famous for telling the news of battle to the American people.

General Eisenhower talked, brief-

ing them on the biggest story of their careers — the cross-Channel invasion of France. Summing up the general policies which would govern their activities he said these three things: "I believe that the old saw—'Public opinion wins wars'—is true. Our countries fight best when our people are best informed."

"You will be allowed to report everything possible, consistent, of course, with military security."

"I will never tell you anything false."

Those three statements by the Supreme Commander of the Allied Expeditionary Force in Europe set forth with simple directness the policy which the Army follows everywhere in discharging its responsibility of keeping the home front informed about the war.

It has become the habit to talk of

arrangements with the press as "public relations," and, in fact, the War Department agency of which I am the Director is called the Bureau of Public Relations. I believe a more accurate name would be the simple one of "Information Bureau," since our mission is solely to insure that news is fully reported to the American people.

Since the days of our defense preparations back in 1940, it has been realized that the most successful means of keeping the public informed was to make Army news available to the writers, commentators and cameramen of the nation's newspapers, radio networks, newsreels and picture syndicates to present as they chose. The Bureau issues factual news in press releases. It furnishes casualty lists, frequent

(Continued on page 130)



Maj. Gen. Surles

The Judge Advocate General's Department

by Major General Myron C. Cramer, USA

The Judge Advocate General of the Army

THE work of the Judge Advocate General's Department may conveniently be divided into two major categories. In his capacity as chief legal advisor to the Secretary of War and the entire military establishment, The Judge Advocate General has supervision over a wide variety of legal matters which relate to the orderly conduct of the War Department and the United States Army. The scope of this work extends from matters of procurement through all phases of legal problems, including international law. It embraces almost every conceivable type of legal question which a lawyer would be called



Maj. Gen. Cramer

upon to answer in the capacity of chief counsel for such a gigantic enterprise as the Army. A second major category is the supervision and administration of the system of military justice throughout the Army—a statutory responsibility vested in The Judge Advocate General by the Articles of War.

From the pre-Pearl Harbor strength of 105 commissioned regular officers the Department has been expanded to the present total of 2128 officers. Practically all of these officers have been trained at The Judge Advocate General's School, now located at the University of Michigan. The school has been characterized as one of the finest service and training schools in the Army. Lawyers from every State in the Union attend the school and are carefully selected solely on the basis of professional standing and attainments. They represent the bench, the bar, the teaching profession and the leading Law Schools of America.

In a spirit of keen competition they are given an intense training in military law and related subjects which qualifies them for the varied legal assignments as officers of the Judge Advocate General's Department.

(Continued on page 120)

The Tank Destroyers

by Brigadier General E. J. Dawley, USA

Commanding General, Tank Destroyer Center

THE year has seen two important additions to the Tank Destroyer family of weapons. They are the M-18, sometimes called the "Hell-Cat," and the even later M-36, which



Brig. Gen. Dawley

mounts a 99 mm gun. Thus we find Tank Destroyer units, some towed, armed with the 3" gun, and three types of self-propelled mounts, the M-10 (3"), the M-18 (76mm), and the M-36 (90 mm). While all of these types

are progressively under-going certain minor improvements, particularly as to carriage, they may be rated as finished products and as very excellent weapons. Improvements are generally in the field of ammunition and powder, fire control equipment, in re-design of certain assemblies in the prime movers for the towed weapons and in the mounts for the self-propelled weapons.

The Tank Destroyer School has consistently attempted to reflect in its doctrine and teaching, experiences from the battlefield. In order to more rapidly disseminate such doctrine, recourse has been had to several short refresher courses and to demonstrations for senior commanders of the Army. Among the former were courses in July and August for group commanders, battalion commanders and the S-3 offi-

cers of groups and battalions. Among the latter was a conference in June for corps and division artillery officers; in July for Army Ground Forces, Replacement and School Command, army and corps commanders, and commandants of certain special service schools. In September a day of demonstrations was given for senior officers of Army Ordnance at Detroit, and a group of production heads of the automotive industry, who are working in such close collaboration with and for our Ordnance Department.

The effort of the Center and the School has been toward the codification and dissemination of doctrine rather than the enunciation of new doctrine. The Tank Destroyers find, like every other arm, that any operation is the sum of the results

(Continued on page 120)



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From 1919 to 1944 . . . RCA has pioneered in the science of radio and electronics . . . from world-wide wireless to national network and international short-wave broadcasting . . . from electron tubes to electron microscopes and radiothermics . . . from the hand-wound Victrola to the automatic radio-phonograph . . . from television to radar.

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ment and progress . . . RCA is a monogram of quality in radio-electronic instruments and dependability in communications throughout the world.

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Adjutants General in Theaters of War

by Major General James A. Ullo, USA

The Adjutant General, United States Army

THE Adjutant General of a Theater of Operations has a dual task of administration and coordination covering practically all activities of the command, both internal and external.

No Army Regulation can be sufficiently broad to cover all the functions of a theater adjutant general. He has many duties over and beyond those set forth in writing. If his task were confined to those items covered in regulations, his job would be comparatively easy.

In general, pertinent Army Regulations provide that he shall execute and coordinate administrative functions necessary to the issuance and execution of orders and policies enunciated by the commander.

Specifically, his duties



Maj. Gen. Ullo

include the handling of official correspondence pertaining to his office, the execution of administrative functions and properly determined policies pertaining to assignment, procurement, transfer, promotion, retirement, discharge, classification, and replacement of personnel; leaves of absence and furlough; decorations, citations, honors and awards; the authentication and distribution of all orders and instructions, as desired by the commander, except those pertaining to tactical operations and military intelligence; the preparation and submission of returns, reports on strength, casualties, captured material and prisoners of war; the preparation and distribution of the station lists; the direction and supervision of the Army Postal Service within the command; and the maintenance of the office of record of the headquarters, with personal control of completed files, confidential and otherwise, except those pertaining to tactical operations and military intelligence.

The aforementioned may be considered the framework of the charter under which a theater adjutant general starts his duties—but they by no means cover all his responsibilities. In addition, he must supervise the Army Courier Service and machine record ac-

(Continued on page 124)

The Navy Supply Corps

by Rear Admiral William Brent Young, (SC), USN

Chief of the Bureau of Supplies and Accounts and Paymaster General of the Navy

DEVELOPMENT of an efficient, mobile supply service to support our battle Fleets has won increasing recognition during the last year as a predominant factor in the successes of our naval operations.

Admiral Chester W. Nimitz, USN, Commander-in-Chief, United States Pacific Fleet and Pacific Ocean Areas, recently said:

"The method by which we are able to supply and maintain a great task force thousands of miles from its base for extended periods of time is one of the greatest secret weapons. . . . It could not be accomplished without the loyal and tireless efforts of thousands of officers, enlisted men and

civilian employees of the Navy whose job it is to supply the Fleet."

The Navy Supply Corps and its administrative agency, the Bureau of Supplies and Accounts, play a conspicuous part in supplying the Fleet, being responsible for the procurement of all general stores and many technical items, and for the transportation, warehousing and issue of most of the material used by the Navy.

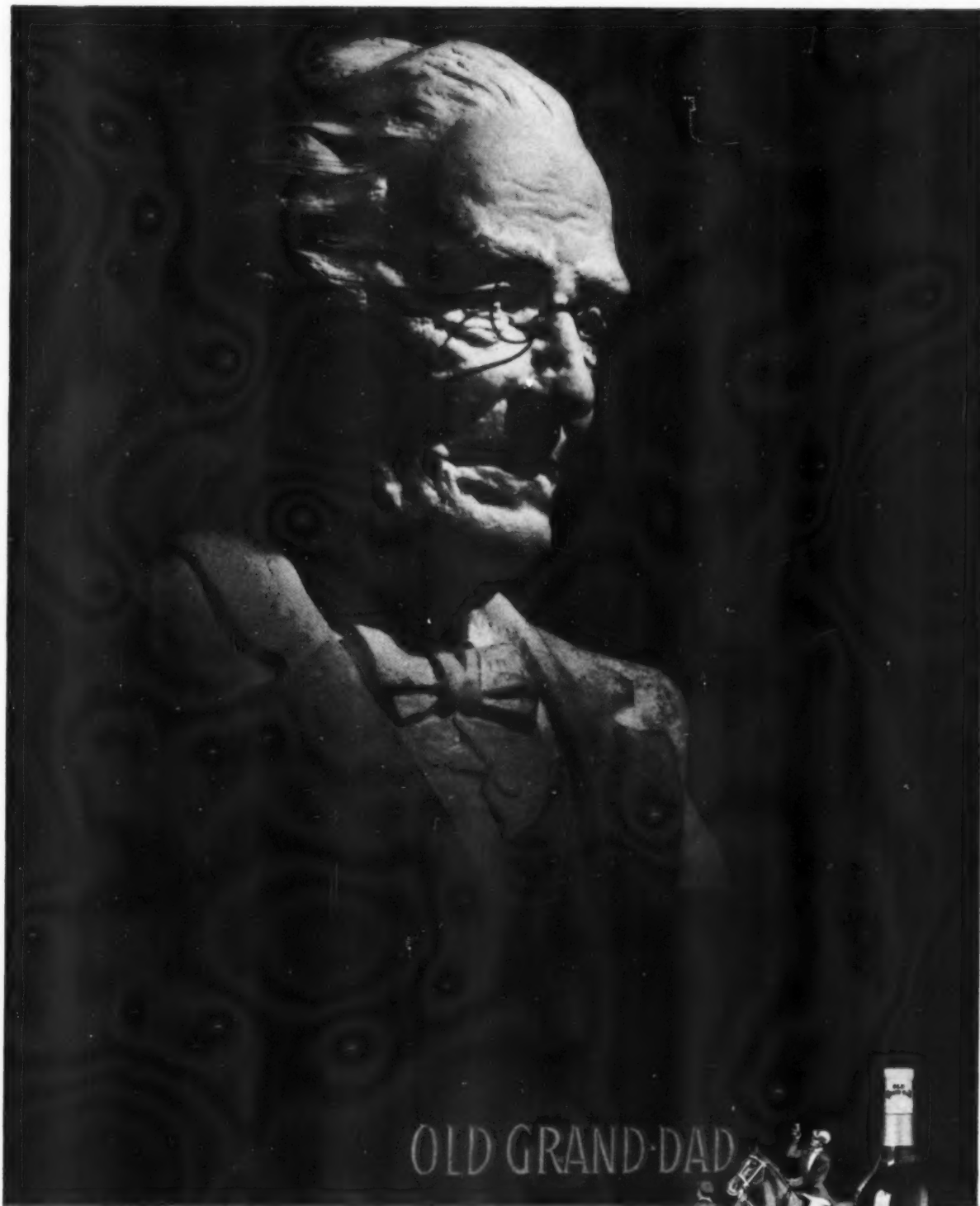
The effectiveness of the Navy's supply service, operated over the longest supply lines in military history, is mentioned in numerous reports from combat areas. In one instance, for example, one of the most powerful battleships of the Fleet operated for 730 days many thousands of miles from continental supply points until it was necessary for her to put into a major base in the Pacific for the repair of battle damage. Her supply officer has reported that during a period when emergency repairs were made at sea "not a single demand was made for any type of material that could not at once be produced."

Such ready availability of all materials needed, including emergency conditions, is the result of thor-

(Continued on page 126)



Rear Adm. Young



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The Chaplaincy of the Armed Forces

by Chaplain William R. Arnold

Brigadier General, Chief of Chaplains, U. S. Army

by Chaplain Robert D. Workman

Captain, (ChC), USN, Director, Chaplains' Division

WHEN the United States went to war for a second time in a generation, the clergymen of the country donned uniforms and went with their parishioners. The men who opened a new front in North Africa and shuttled up through Italy—the tired outnumbered men on Bataan and Corregidor and those who took Guadalcanal—the soldiers who cleared Attu, fought at Tarawa, New Britain, and Saipan, and returned to fight again at Guam—the troops who swept across the English Channel and marched through liberated Paris toward Germany's last stronghold—the men in khaki who daily pound Japan from their Pacific bases—men who have turned the tide of battle toward victory by taking the offensive from the forces of Nazi, Fascist, and Bushido ambitions—these compose the congregations of the chaplains in the United States Army.

Over 7,700 ministers, priests, and rabbis have left their parishes and pulpits to serve God by serving their country in its war against tyranny, oppression, and cruelty. Once in Army uniform, they take to themselves the arduous and hazardous responsibilities of the 24-hour day pastorate among troops at war. Trained technically and physically in the mechanics and procedures of the Army, the chaplains serve their troops with adequate understanding of their problems under the most difficult situations. Solace for the wounded and dying, burial for the dead, advice for the living, and religious services for all are the chief duties of their many-sided task. Armed only with God's Word and faith, they travel by truck, jeep, plane, train, and on foot with the Army wherever it goes.

What has actually been done by chaplains in this war cannot be measured exactly. It cannot be named detail by detail. The religious ideal incorporated into their pledge, to render spiritual aid, comfort and guidance, to provide religious services and ministrations for military personnel, and to build and maintain character is recognized even by the unreligious as one of the important factors in military morale. Official reports of incidents would fill a book.

The chaplain who evacuated the wounded in his automobile as the Japanese bombed Clark Field in the Philippines 8 December 1941, did so at the risk of his life. The chaplain who refused to leave a first aid tent on Attu and stayed with the wounded had opportunity

(Continued on page 170)

NAVY PBV crews are purported to have a bitter joke which expresses how they feel about their dangerous night-bombing raids. Pilots tell of a message one of their members radioed as follows: "Have sighted enemy. Notify our next of kin."

A newspaper correspondent with our European forces puts in plain words what many have said again and again. "There's nothing phoney at the front. It's dirty and lousy and cruel and bloody, but it isn't phony and the thoughts men think at the front are not phony thoughts."

However much we may temporize, however much we may wishfully hope that war may not change our outlook, the fact remains that the millions of men and women in uniform are being made into realists. Our thinking, according to innumerable reports from

chaplains, medical observers and laymen, is being welded into a pattern whereby non-essentials are apt to be weighed strictly according to their worth.

In order to preserve in men and women the spiritual balance essential to the well-being of any great nation of people, our government has provided a ministry to military personnel never before equalled.

Upon the chaplains of the Navy, less than 2,400 in all, falls the responsibility for providing a spiritual ministry that will meet the needs of some 3,000,000 men and women facing what will be for many the most critical period of their lives.

Since there are no "sulpha powders" for the wounds of the mind and soul and spirit, the Chaplain must be armed with deeply rooted, balanced spiritual convictions. He must be strong enough to prescribe courageously, realistically, and with conviction if he is to meet their unprecedented needs.

Because a chaplain's duties are primarily religious, our chaplains' foremost concern is that a man shall be prepared spiritually for any eventuality. We would substitute for the more popular slogan "no atheists in foxholes" the more realistic one which contends that "the foxhole is a poor place for a man to begin to learn how to pray." Chaplains have enough evidence from combat zones to present a convincing argument which favors spiritual preparation before a man is forced to look down an enemy gun barrel.

Wherever our men and officers go, whether they are pushing forward on missions by land, sea, or air, they

(Continued on page 170)



Chaplain Arnold



Chaplain Workman



No matching wits with Messerschmitts, no bombing missions fraught with mischance and flak, no daring deeds that merit decoration, but a significant story in smudged service records.

With the war under way the AAF picked the Jacobs engine for twin-engine trainers to school the bomber pilots and bombardiers.

A pre-war engine, developed during the Depression years, the Jacobs had proved itself a simple, rugged engine that stood up for long periods in all kinds of work and weather, with little maintenance. No government money went into its development. Ready for production, thousands were ordered.

FOUR years ago, the Jacobs was rated by the Army as good for 350 hours of flight time between major overhauls—long service shift for an engine handled by student pilots, taking more take-offs and more time at full throttle than engines used in any other type of flying.

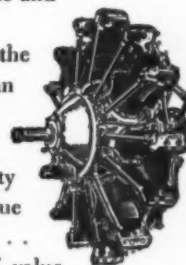
As the flight hours piled up, it was found that the Jacobs was good for more than 350

hours; and the service period was extended again and again. Today, the service period of the Jacobs is as high as 1,200 hours—equivalent to 180,000 air miles of flight, not counting taxiing, and ground time.

Because it delivered more than three times the original specified service hours, the Jacobs not only speeded up training schedules, but also saved the AAF and the taxpayers millions of man-hours in shop time and maintenance.

Built to work, built to last . . . the Jacobs will mean more in peace than in war—when safety and low costs are essential to commercial flying.

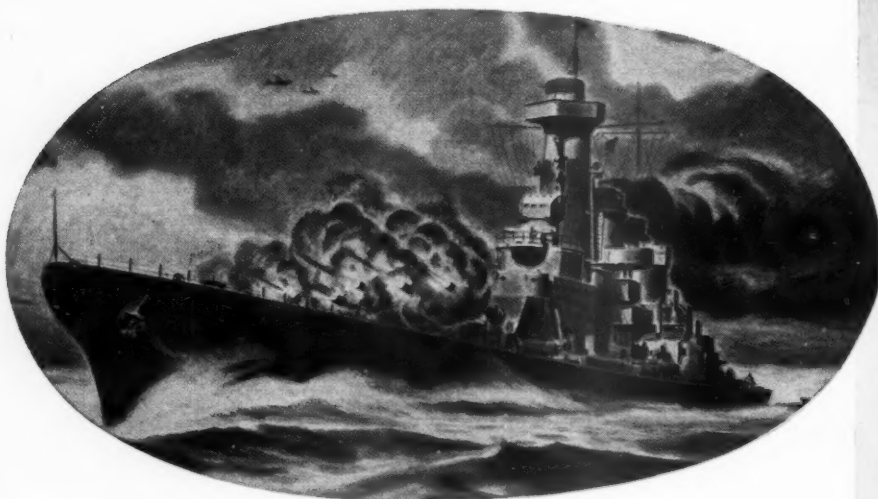
The engine also certifies the ability of Jacobs to put extraordinary value into precision-built mechanisms . . . stands as a reliable guaranty of value on any product that will carry the Jacobs name plate. Watch for it, and you won't go wrong! . . . Jacobs Aircraft Engine Company, Pottstown, Pennsylvania.



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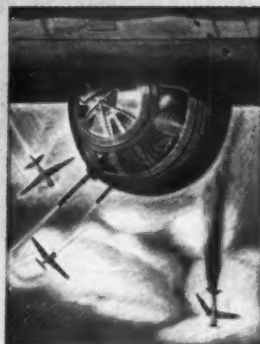
Hydraulics is the use of oil under pressure for the *precise, instantaneous and easy control* of many different kinds of equipment. Hydraulics frequently offers important advantages not obtainable by any other means. For example: in many instances the weight and power savings accomplished by the use of hydraulics are of tremendous importance in increasing the range and load of American combat planes. These weight savings make possible many additional rounds of ammunition and gallons of gas that can be the margin of victory.

The applications shown here are representative of many others used on our modern weapons of war. Vickers Hydraulics is also providing accurate and dependable control for much equipment used on the production front: giant presses, ingenious machines for making munitions, standard and special purpose machine tools, oil well pumping units, power steering of heavy vehicles . . . and hundreds of other applications.

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Vickers "Hydraulics" instantly and automatically positions our Army's 90-mm anti-aircraft guns on the target. This hydraulic unit is so responsive and precise, it responds to a movement of 1/1000-inch of the controls.



Vickers "Hydraulics" opens the bow doors of the Landing Ship Medium. On this application of hydraulics, positive and dependable operation is certainly the most vital consideration.

ATC—The Aerial Supply Line

by Major General Harold L. George

Commanding, U. S. Army Air Transport Command

AN army with missing links and bottle-necks in its supply lines faces an up-hill fight and an exceedingly rough road to victory. Luckily, but actually due to careful planning, our armies and those of our Allies have been well supplied, both by surface and air transport.

In terms of total weight, the Air Transport Command's share in supplying the fronts has been comparatively small. Measured in intrinsic military value, its contribution has been incalculably great.

A recent demonstration of the vital role of air transport in war came with the threatened breakdown of an American petroleum plant engaged in producing 100 octane gasoline. Unless able to obtain fast delivery of 1500 pounds of special valves, this Texas company was confronted with a 5-day forced holiday.

Ordinary rail freight would have been too slow. The commercial airlines could not handle the bulky, odd-shaped equipment. It was a job for the Air Transport Command—but only a routine one. The valves were sped across half a continent in cargo planes, averting the shutdown.

In volume, that particular air movement was un-

important. Otherwise it had considerable significance. In five days that Texas petroleum plant produces enough aviation gasoline to launch 1,000 four-engined bombers from England to Germany and return them to their bases.

Air transport has the essential virtues of speed, flexibility, multiple uses and elusiveness. It is the only existing method of getting certain supplies into some parts of the world—not just getting them in on time, but getting them in at all.

There is no better illustration of this than the plight of China. The Japs dealt the Chinese a severe blow by severing the Burma Road. As a substitute, an aerial pipe-line from India to China at first seemed

(Continued on page 120)

AAF Medical Services

by Major General David N. W. Grant

The Air Surgeon, AAF

WHEN the medical history of World War II is written the record will ring with the achievements of the Army Air Forces Medical Services which has contributed a dramatic succession of developments in medical science. The biggest over-all accomplishment, of course, is the general one of providing excellent medical services for two and a third million members of the Army Air Forces. This includes procurement of qualified personnel, their training in military and aviation medicine, the organization and equipment of hospitals and dispensaries and tactical medical facilities, proper placement and classification, disease prevention and sanitation. It includes in general everything done to make valid our assurance to American parents that their boys will get the best possible care in the AAF. But procurement, training, organization and equipment of arms and services is characteristic of the entire war effort and cannot be represented as unique. Out of this total effort to provide the finest medical attention, we can select five specific and outstanding achievements which are in some sense peculiar to the AAF.

1. The Aviation Psychology Program:

A comprehensive testing program, designed to determine the aptitude of individuals for learning the var-



Maj. Gen. George

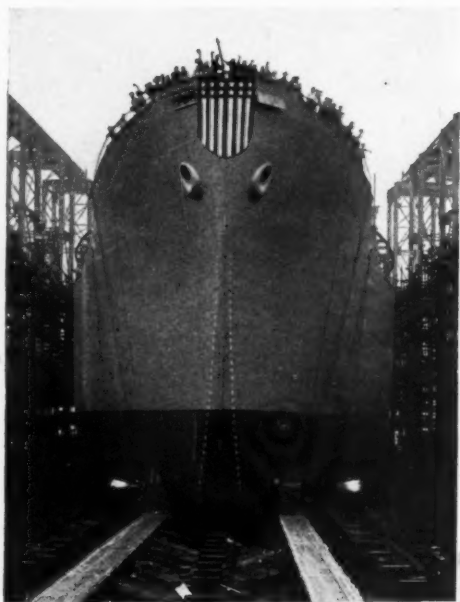
Maj. Gen. Grant

ious specialized air crew duties of the AAF. The selection and classification of aviation cadets on the basis of aptitude has made a direct and vital contribution to the tactical superiority of the American flyer and constitutes the largest comprehensive mass psychological testing program in history. By eliminating the inferior and placing the qualified where they are best adapted for aerial duty, it has saved time, men, and money.

2. The Altitude Training Program:

The survival of the flyer at high altitude depends upon the development of oxygen systems and other protective equipment and upon his proper use of this equipment in maintaining the body in flight. We realized this at the outbreak of the war and instituted necessary physiological research at the AAF School of Aviation Medicine at Randolph Field, San Antonio, Texas. A series of ground chambers were developed

(Continued on page 120)



PRODUCING



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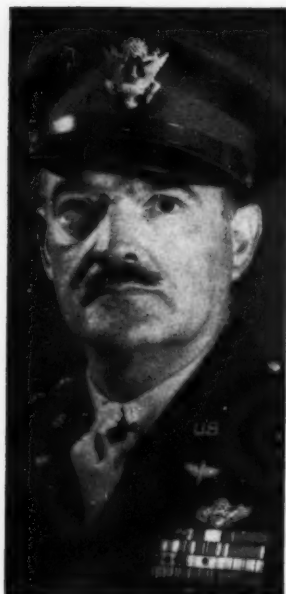


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First Air Force—Aerial War on the Home Front

by Major General Frank O'D. Hunter, USA

Commanding General, First Air Force



General Hunter

WITH the nation embarked on its fourth year of total war, the continental First Air Force has stepped up the pace of an already highly accelerated combat replacement training program. In ever-increasing numbers, pilots and crews for fighter and bomber planes are being turned out of a vast aerial hopper, each man trained and tested

in all the known tactics of air warfare. Teamwork, the keystone of victory in the sky, remains the hallmark of the First Air Force.

This Air Force, in addition to its own headquarters, is comprised of the I Fighter Command, Brigadier General J. R. Hawkins, commanding, and the I Bomber Command under the command of Brigadier General C. V. Haynes. Over twenty-five installations strung along and inside the eastern shoreline carry on the vital task of training replacement crews for combat service. For the Fighter and Bomber Commands this program represents a conversion from the old order of training operational units only.

When strategic operations in the late spring of 1944 opened the Allied Nations' full-scale offensive, the I Fighter Command eased up its extensive defense operation of the East Coast's aircraft warning system, and turned to concentrating on the training of fighter pilots—

receiving newly commissioned pilots for schooling in the tactics and techniques of air battle.

The Operational Training Unit program was initiated in March, 1942. Over a period of 18 months the training of eighteen complete fighter groups, one a Negro outfit, was completed. Many of these groups have already distinguished themselves in battle by contributing their share to the defeat of our enemies on far-flung battlefields. In December, 1943, the OTU program was changed to Combat Crew Training, in which Thunderbolt (P-47) pilots were made ready for replacement assignments overseas.

At twelve First Air Force bases fighter pilot training consumes a rigorous two-months' period of work. Four bases devote their efforts to basic training, five to advanced training and two others combine both basic and advanced training, one for Negro and one for

(Continued on page 120)

Four Engine Bombardment

by Major General U. G. Ent, USA

Commanding General, Second Air Force

SINCE January 1941, the Second Air Force has been chief producer of fully trained and equipped combat crews, ground personnel and allied services for United States heavy bombardment aviation.

Its growth parallels the expansion of America's armed efforts on land, sea and elsewhere in the air. The Second Air Force is the largest continental Air Force. Until early this year, every B-17 Flying Fortress and every B-24 Liberator bomber crew in a theater of operations was Second Air Force trained. In the last 12 months, this schooling of heavy bombardment crews reached its peak and sent forth nearly one hundred thousand eager young men who have been, and now are, conspicuous in every war theater on the globe.

They were trained at air bases that sprawl over flat lands in 14 states, all but one west of the Mississippi. This personnel, which comes to Second Air Force from the Training Command, continues to be formed into complete tactical crews or bombardment groups, and is given three cycles of training. Those who receive training as separate crews go overseas as replacements.

(Continued on page 120)



Army Air Forces Photo
Maj. Gen. U. G. Ent, Second Air Force commanding general, wishes bon voyage to a B-24 Liberator crew that completed training at Pueblo (Colo.) Army Air Base. Col. Henry K. Mooney, a wing commander, is behind him; Col. Vernon C. Smith, base commander, is at his left.

Third Air Force Training Stresses Combat

by Major General Westside T. Larson, USA

Commanding General, Third Air Force

THIRD Air Force Headquarters is a long way from the battlefronts, but, like a college which prides itself on the achievements of distinguished alumni, we feel a personal interest in the combat record which the men of the AAF have written from Berlin to Tokyo.



Maj. Gen. Larson

On every front where American airmen have blasted the way for our victorious troops, alumni of the Third Air Force have

been in action. They wear the insignia of a dozen overseas air forces—but they started with the Third. And we like to think that the training in combat tactics they received in the Third Air Force is largely instrumental in their brilliant success against the enemy.

Our constant aim is to prepare men for combat. It is not enough to teach them to pilot their planes and handle their guns expertly. They must be taught to fly and shoot under the difficult conditions they can expect to meet in battle. They must be skilled physically and conditioned mentally for the job of destroying the enemy. This type of training increases their effectiveness as fighting men and it increases their chances of survival.

It is necessarily an everchanging training program, adapted to take advantage of the latest battle lessons, and it is supervised by men

who have perfected their knowledge of air warfare in action against the Jap and the Nazi.

Training under simulated combat conditions involves considerably more hazard for inexperienced personnel. Yet in 1944 the Third Air Force attained the best safety record in its history, establishing in September an accident rate of only .58 per 1000 hours flown. This is equivalent to about one accident for 359 round trips between London and Berlin.

The Third Air Force has the most diversified training program of the four continental air forces. At 53 bases, concentrated largely in the southeastern United States, it carries on day and night training for all types of aircraft from the tiny "grasshopper" to the heavy bomber.

To these bases flow the graduates of the flying and technical schools

(Continued on page 119)

Pacific Coast - As an AAF Defense and Training Area

by Brigadier General James E. Parker, USA

Commanding General, Fourth Air Force

AT the time of the Jap attack on Pearl Harbor, the immediate establishment of an adequate and effective air defense for the Pacific Coast area became our paramount problem.



Brig. Gen. Parker

To establish this effective defensive coverage, and permit the rapid movement of defensive aircraft to one or several danger areas, the expeditious construction of vital strategic landing strips became the order of

the day, thereby making the majority of our air bases, in truth, only transient air fields. Repair and maintenance facilities were held to a minimum since our problem centered largely around first and second echelon maintenance.

Living and operations were conducted almost entirely under simulated field conditions since the entire Pacific Coastline was classified as our vital defense area. Consequently, none of these newly acquired bases were equipped with sufficient hangar and housing facilities to permit readily the conversion of our mission from defense to training. The construction of facilities for instruction, recreation, sanitation and the like were relegated to the background.

As the probability of enemy air attack decreased, the training mission of the Fourth Air Force gradu-

ally increased to a point where today, the primary mission is training.

Within the boundaries of the Fourth Air Force that stretch along the Pacific Coast, are now situated many Bases, Sub-bases, Auxiliary Fields, Antiaircraft units and Specialized Ground Installations incident to this training program. Here personnel are trained and welded into various combat units such as Fighter, Bomber, Night Fighter, Aviation Signal, Aviation Engineering, Antiaircraft and Jet Propulsion. These units are then coordinated through the medium of the final training phase into smoothly operating combat forces for shipment to all theaters of operation.

Many classified Army Air Forces projects are now being conducted on the Pacific Coast. Certain of these projects can be mentioned

(Continued on page 119)

The Army's Transportation Task

by Major General C. P. Gross, USA

Chief of Transportation

THE most obvious fact about the Army's wartime transportation task is its magnitude. From 1 December 1941 to 1 July 1944, the War Department delivered to common carriers in the United States a total of 23,300,000 troops moving in groups of 40 or more, and 188,000,000 short tons of freight. During the same period 4,370,000 passengers and 63,000,000 measurement tons of cargo were moved overseas by the Army. This is more than twice as many men as were transported overseas during the last war, and seven times as much freight.



Maj. Gen. Gross

These traffic figures are impressive, and a further analysis of them would bring out many interesting points. In this brief article, how-

ever, it seems appropriate to speak of other aspects of the Army Transportation Corps' work which are not so obvious. These are aspects which naturally do not come to the attention of the man in the street, and which even the transportation expert does not fully comprehend unless he has had intimate contact with the Transportation Corps in the day-to-day fulfillment of its responsibilities.

There is, for example, the matter of long range
(Continued on page 119)



Railway yard near a United States port, showing large amount of Army freight destined for overseas. "The railroads," writes General Gross, "have functioned magnificently."

Airborne's Extension of Air Power

by Brigadier General Josiah T. Dalbey, USA

Commanding General, Airborne Center

AS the tank and the airplane asserted their potentialities in the latter part of World War One, so in 1944 have airborne operations thrust themselves acutely upon military consciousness. Of especial significance were the landings in Burma of glider and airtransported troops, and the large-scale use of Airborne forces successively in the Normandy invasion, in Southern France, and in the Netherlands.



Brig. Gen. Dalbey

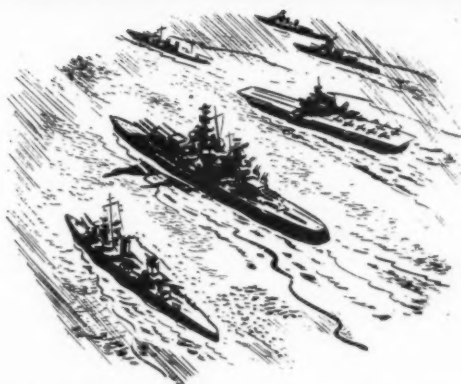
In each of these operations the airborne mission assumed position as a key part of the basic plan, and in each case the placement and fighting of airborne troops made the main theater effort incalculably easier of attainment. It became

apparent that the combined employment of airborne and air force elements in great strength could be regarded as an *extension of air power*, in that devastating blows from the air were supplemented by a means of physically seizing and holding objectives hitherto subject to air attack only;—a means whereby enemy flanks were rendered impotent and all the arteries to his heart were made vulnerable to strangulation or destruction. The combination of these forces has provided fresh opportunity for effective team play at which Americans excel, and the two elements comprise another special purpose team: Airborne-Air Force. Here is the most intimate linking of soldiers of the ground and the air in a team which can take maximum advantage of the capabilities of each. Its implications in warfare are limited only by vision, inventiveness, and military audacity.

The formation in August of the First Airborne Army, under command of U. S. Lt. Gen. Lewis H. Brereton, with British Lt. Gen. F. A. M. Browning as deputy commander, consolidated all American, British and Polish airborne troops in the European Theater. This action reflected the prestige acquired by the new

(Continued on page 119)

AT YOUR SERVICE



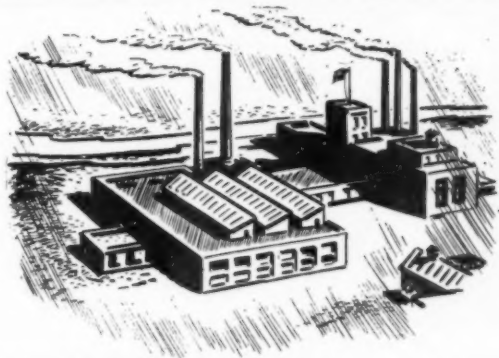
AT SEA Steam that powers the majority of our fighting ships of all types from battle ships to tugs, is generated by B&W Marine Boilers. Most of the Victory ships, Liberty ships, other types of cargo vessels and tankers that speed men and supplies to fighting fronts are likewise equipped with steam generating equipment pioneered and built by B&W. Much B&W tubing goes into the construction of combat and supply ships. Boilers, refractories, tubing and other B&W products are used in many power plants serving American shipyards.



ON LAND In tanks, range finders, field artillery, shells, bombs, rockets, trucks and other fighting equipment for our armies, vital parts are made from B&W Seamless and Welded Tubing. Thousands of miles of "invasion" pipe line—carrying fuels to the front—are B&W tubing. Power trains that provide emergency electric power for military and essential civilian needs in liberated areas include B&W steam generating equipment. Boilers, refractories and other B&W products help to speed production of equipment and supplies for allied land forces.



IN THE AIR Engines, landing gears, fuselages, generators, aircraft cannon and other equipment on bombers and fighters of our powerful air force are made from B&W Seamless and Welded tubing. Pressure vessels fabricated by B&W, together with B&W boilers and refinery tubing, are all helping to produce aviation fuel, chemicals, synthetic rubber, plastics and all other "ingredients of victory" required for modern aerial warfare.



AT HOME In steel mills, chemical plants, refineries, ordnance plants, aircraft factories, shipyards—wherever American industries are busy producing weapons of war—steam generated by B&W boilers in industrial power plants and central stations is providing the power for production. Here too all other B&W products are backing the attack.

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They Got There First

by Brig. Gen. Frederick W. Evans

Commanding General, I Troop Carrier Command, Army Air Forces

(4 October 1943 — 26 August 1944)

THE Troop Carrier Commands in combat theaters throughout the world came into their own in 1944.

Since its inception in April 1942, the Command has been emphasizing, over and over again, its motto: "*He Conquers Who Gets There First.*" In 1944, Troop Carriers got there first.

In the words of Air Force magazine, official service journal of the AAF, "Troop Carrier has done it; all the great promises of Troop Carrier, all the hopes which its champions have had for it, have been richly, triumphantly fulfilled."

The greatest invasion of all time — the operation which put Allied forces once again upon the soil of western Europe—was led by a thundering procession

of Troop Carrier C-47 transport planes pulling silent gliders through the air behind them. Their pilots and the parachute and glider troops these aircraft poured into Normandy have been given much of the credit for making D-Day the beginning of the end for the Nazis in France.

A similar pattern was followed a few months later when the Allied forces burst into southern France. The pattern is simply "vertical envelopment"—the landing of forces from the sky behind the enemy's front lines, to disrupt communications and prevent the arrival of reinforcements from the rear, thereby isolating the shore installations from the secondary defenses.

After the sky troops are landed, the TCC begins its tremendous job of resupplying and reinforcing them by air until they gain contact with the main body of invasion forces.

On the opposite side of the world, British and Indian troops were flown far behind the Japanese lines last spring by the Troop Carrier Command, operating in conjunction with Col. Philip G. Cochran's First Air Commando Force. They crossed the Irrawaddy River and began operations to disrupt enemy supply lines.

First used in force by the Germans at Crete in the early, dark days of the war, airborne warfare has been developed by the Allies and turned against the enemy with a vengeance.

Although it was used to a certain extent by the Americans last year in the Sicily, Italy and New

(Continued on page 119)



Brig. Gen. William D. Old, (left) who assumed command of the I Troop Carrier Command, 26 August 1944. Previously the command had been held since 4 October 1943 by Brig. Gen. Frederick W. Evans, (right).

Military Training Affects the Nation

by Members of the Organization and Training Division

War Department General Staff

WHEN the American soldier returns from the war, he will be changed in many ways—and mostly for the better. He will be better educated, more highly skilled, possessed of greater resourcefulness and confidence, and will have gained a better understanding of how to care for himself physically. Some of this improvement will be due to months of wide and extraordinarily intense experience; most of it will be due to the military training he has received. When it is considered that this military training, which was put to the test in 1944,

has made itself felt upon almost one-half of our male population between the ages of 18 and 38, its influence upon the post-war life of this nation can hardly be overestimated.

The Army's training program has had as its primary objective the development of soldiers capable of handling the highly technical weapons of modern war and overcoming a skillful and well-trained enemy. But training for war is not so different from training for peace. Sixty per cent of the specific skills required in the present-day Army

are directly convertible into civilian occupations. The Army must have bakers as well as bombardiers, metal casters as well as machine gunners, telephone repairmen as well as tank drivers. Illiterates must be brought at least to the fourth-grade level of education if they are to be useful to the Army. Leadership and initiative, desirable in any profession, must be discovered and developed to provide the requisite officers and noncommissioned officers. Trained to play to the utmost his individual part in the

(Continued on page 118)

The Supply Division, War Department

by Major General R. L. Maxwell, USA

Assistant Chief of Staff, G-4

THE functions of the Supply Division, War Department General Staff, cover supply and logistical responsibility for the Chief of Staff. The basic mission of the Assistant Chief of Staff, G-4, consists of those duties of the War Department General Staff which relate to the administrative organization and the Supply of the Army. G-4, WDGS, is charged with the preparation of such broad basic supply policies and plans which are required as a basis for detailed programs by the Commanding Generals, Army Ground Forces, Army Air Forces and Army Service Forces for the accomplishment of their missions. These policies are adjusted from time to time to meet changing



Major Gen. Maxwell

military needs and procurement possibilities.

The work of the Division is carried on in three branches: the Planning Branch, the Program Branch and the Policy Branch. While most of the supply problems are assigned to a specific section of one of the three Branches, many of them, particularly those involving broad questions of policy, are coordinated throughout the Division in order to arrive at thorough supply doctrine.

The Planning Branch is charged in general with those duties of the Supply Division which relate to overall logistical planning, procedure, doctrine and organization. This Branch formulates the basic policies and directives covering utilization of the logistical forces of the Army in the theaters. This work is carried on in collaboration with the Operations Division, WDGS. It also maintains liaison with Joint and Combined Agencies and reviews joint and combined staff papers. It reviews theater operational projects as submitted through Operations Division, WDGS, collaborates with the Navy Department, in the development of joint logistical plans, formulates policies

(Continued on page 118)

Personnel High Lights of 1944

by Major General S. G. Henry, USA

Assistant Chief of Staff, G-1

ON 1 January 1944, the Army was 200,000 men short of its planned strength of 7,700,000. The most pressing immediate problem was to induct these men, complete their training, and have them ready for the forthcoming major operations. Through the strenuous efforts of the Selective Service System, the Army received sufficient men to reach its ceiling strength during the latter part of March. During the succeeding three months, inductions were continued at a high rate with added emphasis on youth and physical stamina. By this action sufficient replacements were backlogged to meet the heavy losses which were expected during the invasion of Europe. Fortunately, casualties were not as heavy as anticipated and consequently the Army has remained somewhat overstrength. Continued combat losses

and reduced inductions during the remainder of the year will reduce this overstrength to a small percentage by 1 January 1945.

The War Department met the full impact of the replacement problem in the Spring of 1944 when its units in Italy suffered heavy casualties as a result of the stubborn German defense and the severe climatic conditions which existed in the mountainous areas. For a short period during February and March, the combat divisions in the line were understrength. By mid-April the machinery of the replacement system caught up with the situation and since then replacements have been stacked up behind combat units in every theater to such an extent that losses have been replaced practically as soon as they occurred. A German officer's notebook captured in France contained the bitter com-

plaint that no matter what losses an American unit suffered during the day, it was fighting at full strength the next morning.

As we entered the third year of war, it became increasingly evident that relief was necessary for men who had served overseas for extended periods under severe conditions of combat and climate. While a plan had been worked out in the fall of 1943 for the rotation of such personnel to the United States, it did not begin to function smoothly until well into 1944. Even then the numbers which could be returned were extremely limited due to the small amount of available shipping space. In addition, the continuation of operations required that replacements be physically present in the theater before the men to be rotated

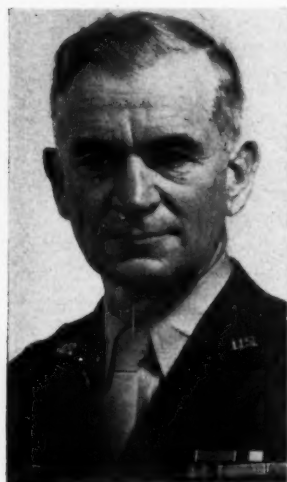
(Continued on page 118)

Infantry Replacement Training Centers

by Major General John H. Hester, USA

Commanding General, Infantry Replacement Center, Camp Croft, S. C.

AMERICANS are fighting on every battle front today. In a relatively short space of time our



Maj. Gen. Hester

army has undergone a tremendous expansion and has developed into one of the most powerful in the world. The progress being made on all fronts is well known. The apparent miracle by which a citizen army of such power and might was created from almost

nothing in less than four years was the result of careful attention to modern methods of training and a skillfully devised organization to put these methods into effect. Replacement Training Centers have done and are doing much in creating and maintaining the high efficiency of our fighting forces. Combat units must be maintained at full effective strength, which requires that all members of a unit be trained men. This is essential in time of war. For example let us assume that a particular regiment or battalion has lost through casualties, sickness, or otherwise, fifteen to twenty-five percent of its strength. The striking power of that unit, as well as its ability to carry on a sustained action, has been seriously affected. It would be most unwise to replace those losses with untrained men; the efficiency

of the organization would be dangerously lowered. On the other hand, it could absorb up to twenty-five percent of trained replacements and continue to carry on without lowered efficiency.

In order to take care of such a situation in World War I, complete divisional units were broken up and the individuals used as replacements. This method of maintaining units up to strength is most expensive, it takes time to create and train a divisional organization. Any repetition of any such system was out of the question. As a result of careful planning the present Replacement Training Center system has been evolved. These centers are designed to furnish trained men to combat units, men who can step right into a going organization and carry on. As the name implies they

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Navy Combat Artists

NAVAL historians of World War II will find as complete a pictorial record of war as has ever been made. In addition to the many thousands of photographs being taken, the need for paintings and drawings was felt early in the war, for although the modern camera has great scope and versatility, it also has limitations, especially in such subjects as actions at night or in foul weather, and in battles taking place over great expanses of ocean. An artist can capture not only the action itself, but create on canvas the mood, spirit and tempo of the men and ships which are making history. By the proper use of his artistic skill, he can make scenes and activities more vivid and poignant, stressing and integrating essential elements, and omitting unimportant detail.

To fill this need, the Navy commissioned a few carefully chosen men, who are Naval Officers as well as artists. Assigned by the Navy's Office of Public Relations to combat zones, these men paint the Navy at

war in all its phases, whether aboard ship, at our furthest outposts, or with the bold task forces that are the spearheads of modern strategy. In all theatres of war our artists have been in the thick of battle, experiencing momentous events and recording them so that the public and the Navy alike will have a better understanding of the vast and bloody conflict taking place beyond our shores.

Early in the year before Pearl Harbor, the Navy commissioned its first artist, Lieutenant Commander Griffith Baily Coale, USNR. His first assignment was aboard a convoy to Iceland. Coale was then sent to Pearl Harbor where he reconstructed from official reports and eyewitness accounts an important historical canvas depicting the Japanese attack on 7 December 1941. Shortly thereafter, the echo of our defeat at Pearl Harbor was partially drowned by the thunder of battle at Midway. Coale's canvases give us an accurate and vivid picture of this tremendous air ac-

tion that was to signify the turning of the tide. He has since been in the South Pacific, assigned to Lord Mountbatten's command. In the spring of 1942, after eliminating many candidates, Lieutenant William F. Draper, USNR, Lieutenant Dwight C. Shepler, USNR, and Lieutenant Albert K. Murray, USNR, who were in the Navy assigned to other duties, were transferred to the Art Section, and Lieutenant (jg) Mitchell Jamieson, USNR, of Washington, D. C., was commissioned. These men became officer-artists to be sent on combat assignments.

These officer-artists have not done their paintings in ivory towers, nor have they used the war as a test tube for new theories of art and expression. They have gone out to risk and suffer in the same degree as the men behind the guns, to give to the public, in graphic media, a better appreciation and a more complete insight into what is being done by our fighting men on the

(Continued on page 118)

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Infantry Replacement

(Continued from page 116)

are to replace other men who have left the organization for various causes, and they must be as well trained as the men whose places they are taking.

Although there are nine Infantry Replacement Training Centers scattered throughout the country, the progress and product is maintained at a definite standard.

The mission of an IRTC primarily is to transform a civilian into a soldier capable of plugging the gap created by casualties in an infantry unit, and to accomplish this in a period of 17 weeks. To many this may appear a long time, but when one realizes the varied instruction the modern Infantry soldier must undergo he appreciates that any less period is inadequate. In that time the man must be transformed into a fully qualified soldier ready to go into combat immediately in any unit of his Arm that calls for replacements.

The first six weeks of the training program covers "branch immaterial" training. Individuals in all Replacement Training Centers follow the same course, which is basic in its nature. During this period a man makes the initial adjustment from home life to barracks life and acquires habits of discipline, military courtesy, military hygiene. He learns the rudiments of close order drill, how to make and carry a pack, to wear a gas mask, pitch a tent and read a map. He becomes familiar with the fundamental weapons. (All soldiers, for example, are required to qualify with the M1 rifle). In this short period he must learn to fire a "bazooka," throw a live grenade, remove and disarm a mine and booby trap.

Having completed basic training, the trainee begins a period in which basic subjects are further developed and intensive training is given in the mechanics, marksmanship, and technique of fire of all the infantry weapons.

Something of a culmination is reached around the 13th or 14th week of training in the battle courses which most trainees vote to be the most exciting experience at the Center. In this week, attacks made with live ammunition on a village plentifully sown with booby traps, close combat firing in which the rifle, bayonet or live grenade must be picked in the flash of a second as the appropriate weapon to be used, and the now familiar infiltration course in which overhead machine gun fire is experienced while laboriously crawling under wire, both during the day and at night, are two most characteristic items in this phase of training.

In the 15th and 16th weeks comes the actual climax of the whole cycle. Two weeks of continuous bivouac with tactical training deliberately intensified, long hours, broken rest, irregular meals, numerous night operations are all designed to approximate as nearly as possible the actual hardships of battle. It is here more than anywhere that the trainee finally becomes integrated into a soldier.

The final week is one of polishing off. When a man leaves an Infantry Replacement Training Center he is mentally conditioned, physically fit and hardened, well clothed and equipped, and professionally trained as an Infantryman.

Military Training

(Continued from page 114)

wartime Army, the soldier has, to a large extent, been simultaneously trained to make an increased contribution to the peacetime nation.

The soldier will return to civilian life

better educated. To get the full military usefulness from illiterates and the non-English-speaking, the Army embarked upon an extensive program to teach the three R's. The results have been beyond all expectation. Many of the "graduates" have become noncommissioned officers, some of them outstanding. On a higher educational level, "USAFI," the United States Armed Forces Institute, is reaching approximately ten per cent of our Army, both at home and overseas, including hospital patients and even American prisoners of war. The Institute furnishes over 200 off-duty and correspondence courses in a wide variety of subjects, including arts, sciences, trades, and languages. It has enrolled almost a million soldiers. Keeping pace with the world-wide deployment of our forces, the Army has taught a total of 35 languages, and has furnished the soldier overseas with a compact and readable pocket guide to inform him of the history and customs of the land in which the circumstances of war have placed him. Finally, the prescribed hour each week set aside for orientation—discussions of current events, the causes of the war, our relation to our allies—should make the returning soldier more clearly aware of the basic conflict between democracy and fascism, more understanding of his stake in the struggle.

The soldier will return to civilian life more highly skilled. The scope of the Army's requirements for skilled specialists is reflected in the List of Occupational Specialties, which describes more than 130 skills required in the Army. These range from blacksmith to motion picture editor, from shoemaker to bacteriologist.

The soldier will return to civilian life possessed of greater resourcefulness and confidence. Fundamentally the Army's training program is preparation to meet unusually difficult situations and to make quick, clear-cut decisions. "He who learns, lives" is an oft-repeated slogan.

The soldier will return to civilian life with a better understanding of how to care for himself physically. The selective service soldier, typical of a riding, button-pushing, lever-pulling population, required a good deal of hardening before he could meet the demands of combat.

The Army regards its training program primarily as an investment in terms of materiel and lives. An hour spent in a classroom may save a hundred hours of avoidable repair work. A well-trained soldier will, on the average, do more damage to the enemy and sustain less injury to himself than an untrained one. Good training has already paid tremendous dividends in troops and guns and lives. It will continue to pay dividends after victory. It will reveal itself in a population better educated, more highly skilled, possessed of greater resourcefulness and confidence, and indoctrinated in how to care for itself physically.

Personnel High Lights

(Continued from page 115)

could be released for return to the United States. Counting the men who were being prepared for shipment from the United States, those in transit overseas, those on the return voyage, and those on furlough after return to the United States, it was found necessary to keep a total of 85,000 men continuously in the rotation pipelines, to permit a total monthly return of 12,000 men. These 85,000 men were completely non-effective from the standpoint of operations, and a

greater number could not be spared if planned campaigns were to be conducted. As a consequence, additional means were sought to provide rest and recreation for men serving overseas. Theater commanders were directed to rotate personnel within their theaters and to use the most desirable areas for rehabilitating the war weary. In addition, theater commanders were permitted to return for furlough in the United States men who could be spared for the length of time it would take to make the trip and have thirty days at home. Even in those areas near the United States, this meant an absence from duty of at least ninety days. In the more remote areas, such period was frequently in excess of six months. Obviously only limited numbers of men could be permitted such an opportunity.

A continuing study has been made of the problem of properly utilizing available manpower. While the bulk of the Army was in the United States, great numbers of men were needed here as trainers and to operate the Zone of the Interior establishments. Now that the bulk of the Army is overseas and we are largely on a maintenance basis, many of these installations can be closed out or reduced in size and much of the personnel utilized elsewhere. Certainly the physically least able personnel should be retained on these rear area assignments. Since early in 1942 a process has been under way to accomplish this by gradually relieving the best physically qualified personnel from these duties and replacing them with individuals not qualified for overseas service or those who have returned from such service.

Supply Division, WDGS

(Continued from page 115)

and directives relating to the use of service troops in the Zone of Interior.

The Program Branch is charged in general with those duties of the Supply Division which relate to the development of requirements and the procurement of materiel including responsibility for War Department Staff action on standardization and classification of equipment and the approval of non-standard items for overseas use, and the establishment of allowances of equipment for units, organizations, and establishments of the Army.

The Policy Branch is charged in general with those duties of the Supply Division which relate to general policy and current operations. It also determines policy and makes studies with respect to the utilization of economic resources and the assignment of munitions to our Allies and civilian supplies for liberated areas. It is this Branch of the Supply Division which determines policy with respect to the distribution, storage and issue of equipment and supplies for the Army.

From the foregoing, it may be seen that the Supply Division has a comprehensive mission of formulating policy in the broad field of logistics as it applies to the movement of goods during the war and an adequate supply of equipment and materiel for the War Department during peace.

Navy Combat Artists

(Continued from page 116)

world's far-flung battlefronts.

The collection of paintings and drawings by these Navy artists is a vivid and accurate picture of the Navy at war. In addition to the many photographs being made, it will provide a historical record of Naval warfare such as the world has never seen before.

Airborne Command

(Continued from page 112)

team, provided an able team captain, and made possible the strategic employment of airborne forces on an unprecedented scale.

The special skill required of glider troops and the hazardous nature of their commitment into battle have been given recognition and the gliderman has taken position on a par with his tough companion-in-arms, the parachutist. The small fields of Normandy, enclosed by hedgerows, presented a more difficult problem for landings than glider troops will ordinarily be called upon to face; nevertheless, casualties to personnel and equipment were not regarded as excessive. It is reasonable to believe that fast-moving situations in open country, which may yet confront these units, will bring about their use in greater numbers, under more advantageous circumstances, and with greater effectiveness. The capabilities of glider troops are subject to great exploitation.

Perplexing difficulties have beset the short life of this new team, but many of them have been already overcome by a wholesome spirit of cooperation. Tactical doctrine, which was crystallized subsequent to the airborne operations in last year's invasion of Sicily, has been tested and proved sound. The operational technique of both elements, while susceptible of further improvement, has attained a standard considered satisfactory. The similarity between the doctrine and technique of American and British airborne forces is indicative that both have progressed along parallel lines to arrive at a common solution.

In March of this year the Airborne Command was redesignated the Airborne Center, and the Parachute School was separated from it and assigned to the Replacement and School Command with a primary mission of training parachute replacements. The Airborne Center, at Camp Mackall, North Carolina, serves the Commanding General, Army Ground Forces, to conduct all airborne training, to formulate the tactical doctrine and technique for both parachute and glider troops, and to maintain liaison with the Army Air Forces and other agencies in conducting test and development work to improve airborne equipment and materiel. Its organization dates from 21 March 1942.

Army Transportation

(Continued from page 112)

planning for ocean transport. Few realize how intricate is the task of obtaining the large number of vessels needed to move the troops and the materiel which must be delivered overseas during a given period for use in the execution of planned military operations.

Noteworthy progress has been made in this war in the use of deck spaces, and in the development of techniques for the protection of deck loads against sea and weather damage. Assembled airplanes are now being shipped on the decks of many types of vessels in large numbers and with surprisingly little injury. Thousands of trucks, amphibious vehicles, landing craft, barges, towboats and even tugs have been carried successfully on the decks of freighters, whose under-deck spaces also were stowed full.

Another phase of the Transportation Corps' work which does not appear on

the surface is the coordination and synchronization required to effect the movement of men and supplies according to plan. When a military unit is sent overseas many branches of the War Department are involved in the planning and execution. The port of embarkation, however, is the point at which personnel and equipment are concentrated before sailing, and the Transportation Corps is responsible for having them there and effecting their embarkation on schedule.

It is not generally realized how much broader are the functions of an Army port than the mere embarkation of troops and supplies. When a unit arrives at a port staging area, both the men and their personal equipment are given final inspections to determine their fitness for overseas service. In cases where the result of the inspection is unfavorable, replacements are made before the unit sails.

After a unit has reached its overseas destination, a regular flow of supplies is required to maintain its effectiveness, varying somewhat with the theater but averaging about one measurement ton per man per month.

Overseas, these transportation operations are seen in reverse. The troops, their equipment and supplies must be landed, transported to bivouac areas, warehouses and dumps, and eventually moved up to the forward lines.

Although I have spoken principally of overseas traffic, because that has given us the greatest concern, the domestic movement also has presented problems. The railroads, which have handled the bulk of the traffic, have functioned magnificently. An increasing tonnage has been lifted by the motor carriers and the waterways.

They Got There First

(Continued from page 114)

Guinea campaigns, the first real show of airborne strength came with the landings behind Hitler's Atlantic Wall.

An airborne landing is one of the most complex operations of war. Yet, when the big moment came, the Troop Carriers, as well as the troops carried, stole the show with their brilliantly-executed operation.

This year found the Troop Carrier Command active in every theater of operations the world over—even in the Aleutians and, going to the other extreme in temperature, the Canal Zone.

In the Aleutians the TCC flies in the world's worst weather. It is chiefly a supply job there, without enemy contacts, but Nature herself often becomes as dangerously hostile as any human foe.

The Troop Carriers have transported some strange cargoes at times. In the Aleutians, last Yuletide, they flew Christmas trees and turkeys to isolated islands of that chain. In Burma they flew mules behind the enemy lines, then graciously evacuated some of them by air when they became ill. German and Japanese aliens were evacuated by TCC planes from Bolivia. Under the very noses of the Nazis, wounded Partisans and orphaned babies were loaded into TCC planes in Yugoslavia and evacuated to Italy.

Following its combat missions, the TCC changes from a battle organization to a mercy corps. One of the Command's most important jobs is the evacuation of the wounded and sick.

During 1944, an average of 1,000

patients were flown a day. In the three weeks immediately after the Normandy D-Day, the Troop Carrier Command, resupplying and reinforcing the Allies in France, transported 7,500 casualties back to British hospitals.

In the battles to come, the Troop Carrier Command can be counted on to live up to its motto. Its men and planes will be where it counts with what is needed, whenever the chips of war are down.

Third Air Force

(Continued from page 111)

of the Training Command. For them it is something like stepping from high school into college. They have the fundamentals; here they get the advanced course.

Training is patterned as closely as possible after actual combat conditions.

For the protection of fliers who may be forced down in the water, the Third Air Force maintains its own "navy"—a fleet of air-sea rescue boats stationed along 1800 miles of coastline. These Army patrol craft have effected rescues as far as 200 miles at sea.

Five subordinate commands supervise phases of this widespread program.

In brief, Third Air Force turns out all the highly-skilled specialists needed to man a combat air force. Their schooling finished, many trainees are equipped and head overseas directly from Third Air Force bases.

In the early stages of the war, squadrons, groups and wings sent overseas by the Third Air Force formed the nuclei of struggling air forces which struck the first feeble blows of retaliation against a superior enemy. Third Air Force-trained replacement crews today are helping maintain the muscle with which these forces, now grown to giant size, are smashing inexorably toward final victory.

Pacific Coast AAF

(Continued from page 111)

publicly while others cannot. Our own highly classified program is a difficult mission since we must train personnel by flying over thousands of square miles of heavily populated territory and, at the same time, persuade the public and the press to refrain from talking about or discussing it. Due to the loyalty and cooperation of the American public and press, nothing has been published prior to its official release.

At the present time, all Night Fighter training is being conducted by the Fourth Air Force and, consequently, is one of our busiest programs. Jet propulsion is another one of our confidential projects.

In line with War Department directives, that all air defense units will be assigned to the Air Defense Commander, the 4th Antiaircraft Command was assigned to the Fourth Air Force on 1 May 1944, and now operates as a definite and integral part of this Air Force.

Looking toward the future, our next major problem may be just around the corner. This is Staging. At the conclusion of the European War, the Pacific Coast will probably become a vast Staging Area for large quantities of equipment and personnel indigenous to the "big push" into the Pacific Theaters.

We're proud of having the opportunity to play such an important role in this phase of the War.

The JAG Dept.

(Continued from page 100)

ment.

Administration of the system of military justice in an Army of eight million men and women has expanded the court martial reviews and related work to an unprecedented volume. In the main office of The Judge Advocate General and in branch offices established in France, Italy, Australia, India, and Hawaii, the Boards of Review and Military Justice divisions are engaged in the important work of examining records of trials by general courts martial for legal sufficiency and for conformity to the provisions of the basic military code—the Articles of War.

Members of the Judge Advocate General's Office and judge advocates in other legal offices have had a major part in delineating the powers of Government representatives to make, amend, and modify Government contracts and to requisition and issue compulsory orders. The termination of contracts and disposition of surplus property were becoming increasingly important topics for legal study even before enactment of the Contract Settlement Act of 1944 and the Surplus Property Act of 1944 which present new questions of interpretation.

Legal advice has been given on problems arising out of our custody of many thousands of enemy prisoners, and it is also a part of the duty of the Judge Advocate General's Office, in collaboration with the Department of State and the Navy, to draw up plans for the punishment of those war criminals who have violated the laws of war by acts of atrocity or oppression against members of our armed forces or other Americans, including the people of any dependencies of the United States, such as the Philippines. After proper investigation and trial, due punishment will be imposed.

The Tank Destroyers

(Continued from page 100)

of the objective planning and execution of certain well known and well accepted tactical functions. These are: reconnaissance, information or intelligence, liaison or contact, communication, observation, marching and movement, scheme of maneuver which includes cooperative planning with other arms and culminates in a fire plan; camouflage and concealment, protection against air power, and lastly, but not least, supply and maintenance in all its important and multitudinous detail.

Tank Destroyers as an arm have two missions, the primary one being defense against hostile armor. The secondary one is the employment of its fire power in the role of reinforcing artillery. The Destroyer company musters 12 high velocity guns of 3" or greater caliber, a battalion of three companies, 36 such weapons. The fire power of a battalion is therefore seen to be considerable, more than the equivalent of three of our old-time 75mm battalions. While in weight of projectile, the company is not equal to a 105mm battalion, it has a somewhat greater range. Its employment as reinforcing artillery is through the medium of the organic field artillery. While a Tank Destroyer battalion may be superimposed on a battalion of light artillery, it is more usual to impose a company thereon. There is nothing in doctrine which precludes superimposing tank destroyer units on units of corps artillery.

Another secondary mission is the use

of destroyers against field fortifications or pillboxes. The European theatre, including Italy, is terrain in which masonry in the form of houses, walls of buildings generally, lends itself very naturally and very effectively to field fortifications and pillboxes.

Medical Services of the AAF

(Continued from page 107)

In which flight conditions at altitude were simulated, thereby giving all aviation cadets an understanding of the physiological effects of flying so that they could protect themselves against adverse effects and also receive proper instruction in the use of special flight equipment.

3. Air Evacuation:

The transportation of the sick and wounded by air not only is a life-saving measure of unsurpassed magnitude but has contributed to the tactical success of the campaign in every theater of operations.

The safety of transporting wounded by air has been demonstrated beyond doubt. Since Pearl Harbor more than 425,000 sick and wounded have been evacuated by air.

4. The Convalescent Training Program:

Utilization of the otherwise wasted time of convalescence in Army hospitals in useful military education and physical reconditioning had its first mass application and has reached its highest state of development in AAF hospitals. It has saved time in a military sense and enhanced individual morale.

5. The Tactical Care of the Flyer:

The responsibility of determining whether a flyer is fit to fly rests with the Flight Surgeon in the tactical unit. Upon him falls the grave burden of protecting the flying efficiency of the individual air crew member.

In all of these developments in the Air Forces Medical Service The Air Surgeon has maintained close liaison with the Surgeons of the Air Forces in theaters of operation.

Aerial Supply Line

(Continued from page 107)

pitifully poor and uncertain. The towering Himalayas, later referred to unaffectionately by American flyers as the "Rock Pile" and the "Hump," offered a formidable barrier. Interception of our unarmed transports by the Sons of the Rising Sun was another hazard. Yet today our India-China Division's "Burma Road of the Air" is hauling a greater load than ever went into China by land.

The flying time from New York to London has been repeatedly reduced, until now our transports make the crossing in around 20 hours. Only a short time ago, in a routine flight, an A.T.C. crew flew a C-54 transport from an airdrome beyond the British capital non-stop to Washington National Airport in 18 hours flat. An Atlantic crossing is completed every 13 minutes. As in all theatres, when something must be rushed to the European scene it, of course, goes "overhead." On the eve of the invasion of France when our ground troops needed 10,000 more bayonets, they were loaded aboard two transport planes and on their way but a few hours after the radioed request was made.

Nor is our air transport system a one-way affair, with the cargo planes and

transports going abroad full and returning empty. In the neighborhood of 15,000,000 pounds of strategic materials—tin, mica, mercury, hog bristles, tantalite, drugs and the like—were flown back to the United States in one six months' period in 1944. On more than one occasion has the A.T.C. made special return flights with high priority freight needed to keep our Arsenal of Democracy functioning.

First Air Force

(Continued from page 110)

French crews. One base is charged with indoctrination training of fighter pilots returned from the combat theaters around the world to fit them into our training system as instructors and training supervisors.

Four of our bases serve as combat replacement training schools for bomber crews. Early in 1944, the training of replacement combat crews rather than operational units began. However, at one base a Negro medium bombardment group is being trained as an operational unit.

Unique to this Air Force is the Combined Air Defense Training Center. Its two-fold mission is, first, to train Anti-aircraft Artillery Brigade and Group Headquarters in their normal staff and command functions and, second, to assemble the tactical AAA units with Army Air Forces and Naval units in the field as a combined team for air and airdrome defense.

Of 2,000 Medical Department officers and 10,000 enlisted men trained and sent on to overseas assignments, the greater portion was prepared for combat during 1944.

At our fighter base in Westhampton, N. Y., a complete unit of Brazilian pilots and enlisted men has been trained.

Four Engine Bombardment

(Continued from page 110)

Not all the men coming into Second Air Force have been moulded into flying units. An appreciable number have been formed into airdrome squadrons, engineer aviation and signal aviation companies.

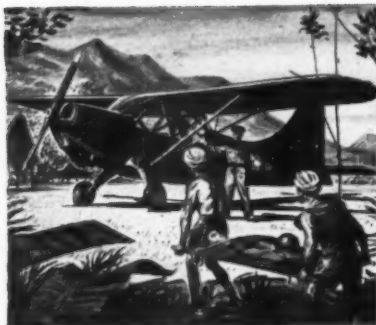
Second Air Force also fits aircraft for its war mission. Airplanes received from the Materiel Command are modified for the appropriate theater where they will see action and are either flown there by Second Air Force crews or those of the Air Transport Command.

To augment the heavy bomber program, this type of training during the last year was integrated with the other continental Air Forces. Heavy bombardment groups were exchanged for fighters, so both might attain a higher degree of perfection in teamwork. Second Air Force now has an entire fighter wing training replacement pilots on P-40 Warhawks and P-47 Thunderbolts.

Command jurisdiction of the very heavy bomber program was placed within the Second Air Force in November, 1943, because it had pioneered this country's heavy bombardment training. All the experience available from the heavy program was assembled for this new venture which now bears the scrutiny of all the world powers as it hits at the heart of the Japanese homeland.

Four bases in the Kansas area were selected as first sites for Superbomber training. All personnel had to be trained for the first time on a new type bombardment airplane. Eight months later, these men were avenging Pearl Harbor over Yawata.

Eight mistakes in Axis strategy



1. The Axis didn't figure on the "Flying Jeep." It hovered over artillery as an observation post; gave phenomenal accuracy to our big-gunfire. In Burma it air-directed tank battles, like a traffic cop. On all fronts, it speeded wounded to base hospitals.



2. They ignored the Vengeance dive-bomber...until they saw it whistle down on them in the CBI theater of operations. With unique hydraulic brake flaps, the Vengeance permitted its pilots to dive-bomb with an accuracy which amounted to precision control.



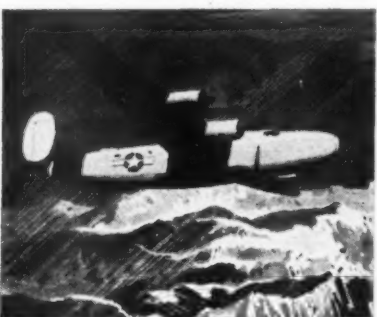
3. They were unimpressed by what they considered the "obsolete" Catalina. The Axis must have realized that this was a mistake when the "Cat" helped sink the Bismarck; dive and level bombed in the Aleutians, rescued scores of fliers in the Pacific.



4. They didn't have enough sense to worry about the Reliant. But the Reliant shucked its peacetime role of a private flier's favorite and, with additional instruments, became a navigational trainer. One in which many Royal Navy pilots learned instrument flight.



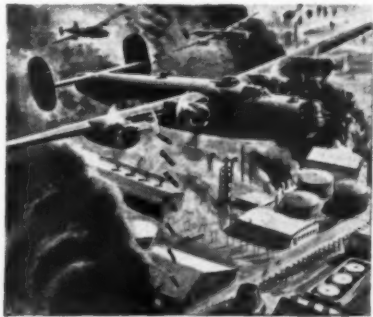
5. They didn't realize how important the Valiant basic trainer could be. But 11,537 of these planes gave scores of thousands of pilots their basic flight training. From the Valiant to combat planes was only a few hundred hours' flight time.



6. They failed to recognize how the Liberator Express would help change the Allies' reputation of "too little, too late." And the big C-87's, time and again, beat deadlines in delivering high-priority cargoes to points all over the world.



7. They scoffed at the monstrous Coronado. But the Navy used it as a patrol bomber with brilliant results—at Wake, for instance—and used a cargo conversion to shuttle 15-ton cargoes across the Atlantic and Pacific many times weekly.



8. It seems unbelievable that the Axis could have underestimated the Liberator. For more than 2 years the long-range Lib has wreaked appalling destruction on the Axis arsenal from Ploesti and Berlin to Paramushiro and Davao.

CONSOLIDATED VULTEE AIRCRAFT CORPORATION

San Diego, Calif.
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Fort Worth, Texas
New Orleans, La.

Nashville, Tenn.
Louisville, Ky.

Wayne, Mich.
Dearborn, Mich.

Allentown, Pa.
Elizabeth City, N. C.

Miami, Fla.

Member, Aircraft War Production Council

Chemicals In War

(Continued from page 92)

Production of chemical warfare materiel has become the most rapidly accelerated business of the Army Service Forces. Even so, the Chemical Warfare Service has led all other technical services in meeting 1944 production quotas.

Measured by dollars and cents, the chief product of this highly specialized service is incendiary materiel. The growing demand for flame weapons and munitions now accounts for more than half of the expenditures of the Chemical Warfare Service, as compared with one-third previously. The Chemical Warfare Service has sole responsibility for supplying all categories of incendiaries to the Navy and Marine Corps, as well as the Army ground and air forces, besides sending considerable quantities to our Allies.

The "goon" gun, which is the soldiers' nickname for the 4.2 chemical mortar, has shown remarkable versatility ever since it saw its initial action in the invasion of Sicily. This portable weapon, which owes its surprising range and accuracy to rifling, can fire either white phosphorus or high explosive with telling effect, and could also lob gas shell should occasion require. The white phosphorus, besides having an anti-personnel incendiary effect, creates protective smoke screens for the land and amphibious operations.

On the defensive side, smoke really came of age at Anzio. This oil-made cloak of invisibility has provided the modern armor which has been highly instrumental in reducing American casualties. The Army's biggest artificial fog producer is the mechanical smoke generator, truck or trailer mounted, which can within ten minutes blanket a square mile of area. Nonexistent five months before the invasion of North Africa, its progeny have successfully shielded many ports from air attack. A later model is of bantam size, weighing only about 180 pounds, yet able to produce almost half as much atmospheric camouflage as its larger brother.

The combat "chemie's" record of achievement and heroism is attested by the mounting list of honors to Chemical Warfare Service units and individuals in all theaters. In the Italian campaign alone more than 700 Chemical Warfare Service officers and men were decorated. Nearly 400 battle honors have gone to the personnel of one particularly active chemical weapons battalion. Distinction won by a dozen Chemical Warfare Service units range from presidential citations to army, corps and division commendations. Incidentally, this Service leads all other branches of the Army Service Forces in percentage of casualties to the number of men overseas, being exceeded only by the Cavalry, Infantry, Air Corps, and Field Artillery in the order mentioned.

Eastern Defense Command

(Continued from page 97)

Within the past year, the Atlantic seacoast artillery defenses were streamlined, thus providing greater speed in both command and intelligence channels. The Northeastern Sector in Boston, Mass., and the Southeastern Sector in Raleigh, N. C., now supervise coastal operations in place of the four sectors which existed formerly. Major General Fulton Q. C. Gardner commands the Northeastern Sector, which includes the coast of New England, New York, and

northern New Jersey. Major General Durward S. Wilson commands the Southeastern Sector, which includes the coast from southern New Jersey to Florida.

Under these sectors come seacoast artillery units, with their modern light and heavy armament, and mechanized cavalry troops, equipped with scout cars, jeeps, and other vehicles.

In an emergency, the Commanding General of the Eastern Defense Command may assume command of any forces within his area for whatever assistance he deems necessary.

The Eastern Defense Command has maintained close liaison with the Canadian Atlantic Command through its Commanding General at Halifax.

The Service Commands are administrative and enforcement agencies in matters pertaining to the Military Areas and for all civilian air defense measures. Without exception, their handling of the many problems which inevitably followed imposition of military control over certain civilian activities has been competent and tactful and has contributed greatly to the acceptance and successful operation of these essential activities.

No review of the Eastern Defense Command's activities would be complete without a word as to the splendid cooperation we have received from the Navy, the Federal Bureau of Investigation, the Office of Civilian Defense, and the Governors of the various states. At our base commands, too, we have been graciously received by the representatives of the various governments concerned and have enjoyed the friendliest relationship with the armed forces of our allies. This spirit of unity and mutual assistance has contributed much to the accomplishment of our mission.

The Signal Corps in 1944

(Continued from page 93)

ing which the Signal Corps has become, simplicity and speed are the main objectives. Every function included in the mission of the organization is assigned to a specific unit which is charged with clearly defined responsibility and authority.

Noteworthy progress was made during the year in the tropicalizing of Signal equipment by moistureproofing, fungus proofing and hermetically sealing components and equipments.

Perhaps the most significant development of our Army Communications Service, which is responsible for the installation, maintenance and operation of fixed military communications throughout the world—was the conversion of many overseas circuits to radioteletype-writer through application of the multi-channel and two-tone single channel systems. These revolutionary facilities permitted the effective use for the first time in standard wire teletypewriters on radio channels, eliminating slow manual methods which required highly skilled operators.

Concurrently, semi-automatic relay equipment and streamlined message-handling methods were instituted in the War Department Signal Center and other major relay centers. The average time to transmit a 50-word message was reduced from more than 40 minutes to less than seven minutes.

The most recent figures of our Army Pictorial Service, charged with the performance of all photographic work for the Army Ground Forces and the Army Service Forces, showed that, among the other accomplishments, it: (1) Photographed 60 per cent of all motion picture

overseas coverage shown commercially to 90,000,000 Americans. (2) Released 50 per cent of all overseas still photographs.

In addition, the Army Pictorial Service is charged with the technical operation of the V-Mail service, which has grown from its inception in June 1942 from some few thousand letters a month sent and received to the staggering total of 535,407,000 letters handled during the fiscal year 1944, and this number has since been greatly increased.

No statement on the activities of the Signal Corps would be adequate without mention of the persevering and important accomplishments of four of our lesser known Divisions: Control, Legal, Fiscal and Office Service. These organizations are manned by experts in their various fields. They have worked untiringly on the complex professional problems that confront so vast an organization, and the remainder of the Corps owes them a debt of gratitude.

War-time Shipbuilding

(Continued from page 93)

Yards and six private shipyards in the whole United States with previous experience in naval shipbuilding, and it was evident that an expansion of shipbuilding facilities must be the first order of business if necessary ship completion schedules were to be met.

Existing shipyards were expanded and new ones built, not only on all seaboard but also throughout the interior of the country. As a result, today we have eight Navy Yards and approximately 300 private shipyards working toward our final goal—a Seven Ocean Navy which, by the end of 1944, will number in excess of 80,000 vessels.

With the advent of multiple ship construction, the advantages of standardization for all types of ships, ranging from our mighty battleships to the smallest landing boats, have been utilized in a manner never possible before in an industry normally geared only to "tailor-made jobs." It was only through standardization that quantity ship production has been achieved, and the savings in time of construction that have resulted therefrom are almost incalculable. A few examples, will illustrate some of these savings: Light cruisers are now constructed in 5,500,000 man hours where it formerly took 7,700,000; the time of construction for destroyer escort vessels has been cut from 1,200,000 man hours to 500,000; man hours required for LST construction have been whittled down from 750,000 to 450,000, and for PT's from 65,000 to 35,000. The battleship Indiana was completed in 29 months instead of the estimated 42. The carrier Essex was ready in 20 months instead of 45. Getting the job done, and getting it done fast, has truly become the watchword of the American shipbuilding industry.

Another complication of the naval shipbuilding program has been the fact that the program has not been static during the war, but has been governed by the shifting demands of changing strategies, and by the many lessons learned in battle. For example, anti-submarine vessels were needed to meet the submarine threat. Accordingly, the destroyer escort vessel and the auxiliary aircraft carrier were developed and were given top priority in the shipbuilding program. When the necessity for amphibious operations became apparent, landing craft of various types were developed and their construction pushed at top speed.

LIBERATION

It is our obligation
to back the Liberation
forces by investing in
War Bonds to the extent
of our ability.

INTERNATIONAL BUSINESS MACHINES CORPORATION

Eastern Sea Frontier

(Continued from page 96)

possible, reporting their presence to bases of the Eastern Sea Frontier. Navy planes served with them—the team-work and coordination were of the highest quality.

A surface fleet was improvised while our shipyards worked day and night to turn out patrol craft. Yachts were taken over and converted, and these former pleasure craft—many of them far smaller than the prey they sought—wrote an unforgettable chapter in our Naval history. The Coastal Picket Plan was set up, following the general pattern of the strictly civilian Coast Guard Auxiliary Patrol except that the civilian volunteers for the Coastal Picket duty were sworn into the Coast Guard Temporary Reserve and assigned offshore patrol duties. They sailed power boats, yawls, ketches and schooners, painted with the Navy's war-time grey, and they did admirable work from Maine to Florida.

But new weapons were in the making and, in a time which was actually short although it seemed long, they were making themselves felt. The fight was long and bitter; a year ago last spring the U-boat menace, although lessened in the waters immediately off the coast, was still a dangerous one. Not until late in 1943, when new weapons had come fully into use—when the "baby flat-tops" were making even the central areas of the Atlantic perilous to the submarines—was the successful outcome of the Battle of the Atlantic clearly in sight. Only in recent months can it be said that the battle has finally been won.

The present duty of the Eastern Sea Frontier is to keep it won.

Adjutants General

(Continued from page 102)

tivities within the theater. He must provide efficient handling of cablegrams and radiograms within the headquarters in order that all staff agencies concerned may have required information promptly, at the same time maintaining necessary security safeguards. He will find new and unusual problems in connection with Lend-Lease matters, real estate rentals, settlement of claims, local procurement of supplies and services, and relationships with Allied and Neutral officials. He will have activities to deal with to which he is not accustomed, such as the Joint Intelligence Collection Agency, the Office of Strategic Services, a Survey Liaison Detachment (map agency), the Theater Censor and his staff, a Signal Photo Section, an Ordnance Technical Unit, the U. S. Armed Forces Institute, and various official and private agencies dealing with civil affairs and relief.

More could be added to the foregoing list of concerns of the theater adjutant general, especially as regards theaters where a combined Allied staff is maintained. It is not possible, however, to make the list complete as conditions and staff organization vary in the respective theaters. Suffice it to say that the adjutant general must start with the original list of responsibilities given to him by Army Regulations and add to it those stemming from local conditions or delegated to him by the theater commander.

In brief it may be said that the theater adjutant general has all the problems of an adjutant general on home service, and more. He will have a feeling of isolation resulting from his location and the difficulties of communication. He is off on his own, so to speak, and must accordingly have a strong sense of self reliance. He must be flexible and ever ready to

adapt himself to new situations, surroundings and associations. He must dedicate himself to service for the headquarters and the command, constantly striving to improve the smoothness of operation of the staff machine and taking into his own hands all administrative duties not clearly the function of some other staff section. With this approach he will have his hands full, but will build for himself that satisfaction that comes from achievement.

Western Sea Frontier

(Continued from page 96)

Outstanding among the accomplishments of the Western Sea Frontier is the organization of a highly integrated air-sea rescue agency which has saved more than one hundred and twenty lives in plane crashes off the West Coast in seven months of operations. Known as the Air-Sea Rescue Service, this unit coordinates with available Army facilities the efforts of Navy and Coast Guard seaplanes, rescue boats, and blimps.

One of the many notable operations in which the Air-Sea Rescue organization played a conspicuous part was the rescue, after an intensive two-day search by surface and air craft, of all sixteen survivors of a PBM which crashed en route from Alameda to Pearl Harbor on 11 April. All occupants of the plane were picked up uninjured by a destroyer.

It is my sincere belief, therefore, that the Frontier establishments—so useful now as over-all, coordinating agencies in given areas—will continue to retain this usefulness as long as our Navy endures as a bulwark of world peace.

Naval Ordnance Today

(Continued from page 88)

was turned out as in the entire previous period of the war. Substantial increases characterize the production of smaller caliber high capacity ammunition. The successful bombardments of shore installations in the Gilberts, the Marshalls, the Marianas, Palau and in Europe testify to the effectiveness of this ordnance.

Rockets have become one of our top programs and will involve the expenditure of approximately a billion dollars in the next twelve months. Rocket installations of Navy assault craft have been used with marked success in amphibious operations. Air-borne rockets have been used extensively and with splendid effect in Europe and will be used increasingly in the Pacific against shore installations, tanks, surface ships and submarines. The Bureau of Ordnance is charged with the procurement program for this type of weapon, except for the bazooka, for both the Army and Navy. The Army in turn is supplying most of the propellant powder and all of the explosive for bursting charges.

Army Ordnance in Battle

(Continued from page 88)

Fast new tank destroyers, with a normal road speed of 50 miles an hour, lunged forward so quickly that it was found difficult to provide reconnaissance cars which could keep up with them. The new lightweight M-18, 76-mm Gun Motor Carriage was followed by the new 31-ton M-36 Gun Motor Carriage which mounts a 90-mm gun with the high muzzle velocity of more than half a mile a second and a range of approximately nine miles. The gun's 24-pound armor-piercing projectiles ripped through enemy armor and knocked out both the Mark V and Mark VI tanks.

Highly mobile artillery rumbled

ashore in steadily increasing numbers—guns and howitzers ranging all the way from the 1½-ton 75-mm gun, which fires a 15-pound projectile approximately eight miles, to the mighty 50-ton 240-mm howitzer, which heaves 360 pounds of steel and high explosive a distance of fifteen miles.

During the first seventy days of the operation, according to Gen. Eisenhower's report, Ordnance was able to supply our ground forces with more than 900 tanks and with thousands of other Ordnance items to replace battlefield casualties. During the same period, Ordnance supplied our ground forces with 150,000 tons of ammunition a month and our air force with 50,000 tons of bombs.

This logistic achievement was made possible by Ordnance troops in the field and by thousands of patriotic Ordnance men and women workers in arsenals, factories and depots in the United States.

Army Medical Department

(Continued from page 92)

The Army has made use of foremost surgeons drawn from civil life to reinforce medical officers of the Regular Army and is seeing to it that the skills of both are fully utilized. Medical officers are performing, often under the stress of combat conditions, feats of surgery that would have been thought impossible only a year or so ago.

A major contributing factor in accomplishments thus far has been the swift and successful operation of our evacuation procedures, using every available means of transport, from hand-borne litters to airplanes.

Although care of the wounded undoubtedly is the most dramatic aspect of the Medical Department's operations, it should not be allowed to obscure the accomplishments of Army preventive and curative medicine which have combined to hold the death rates from disease to the lowest levels in the history of war.

In the tropics malaria has presented a serious problem, but as a result of rigid mosquito control measures, systematic use of suppressive drugs, and improved treatment, malaria rates are but one-quarter to one-third of those prevailing in the early stages of the war.

The reconditioning program in operation in all Army hospitals is achieving remarkable results with both the physically and mentally disabled.

Officers of the Dental Corps have carried the responsibility for the dental health of troops. Through their efforts some 1,000,000 men who otherwise could not have qualified for induction have been made fit for service.

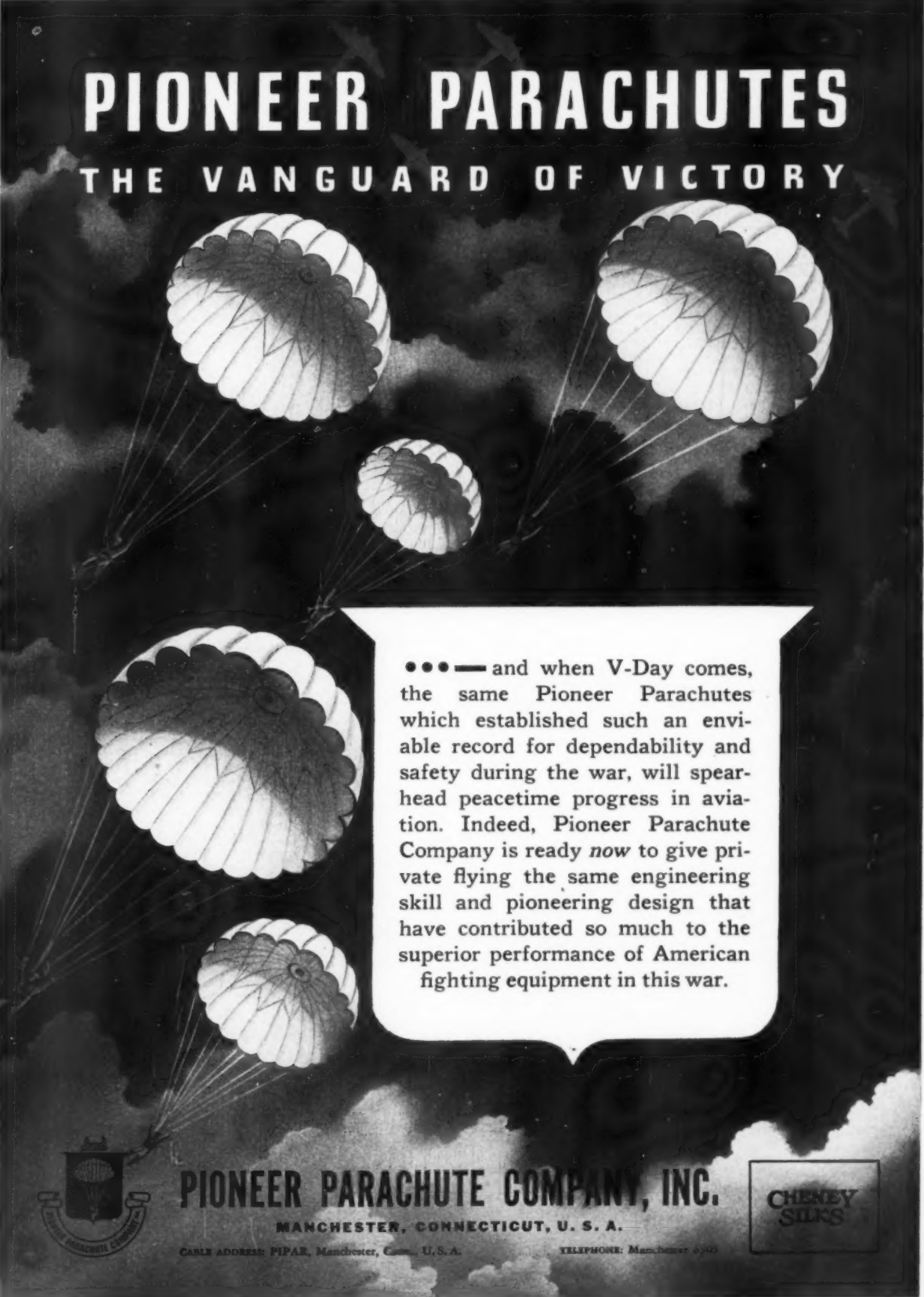
Army veterinary officers, besides performing their regular duties in the care of service animals, are contributing materially to maintaining the health of troops by inspecting millions of pounds daily of meat and dairy products.

Any review of the operations of the Medical Department would be incomplete without reference to the huge and complex job of carrying out the supply program. Every need of the sick and wounded in theaters of operation around the world has had to be anticipated.

The Medical Department in all aspects of its operations is devoting itself first to conserving the fighting strength of the Army, for that is its primary mission. At the same time, it is keenly aware of its public responsibility to give the best possible care and utmost consideration to those men who cannot fight again and to return them to their homes and their families with every prospect that modern medical science can give them for normal and useful lives.

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CHENEY
SILKS

Engineers On the Job

(Continued from page 89)

The theaters still demand Engineers, despite an increase in 18 months of 260%. The demand for Engineer equipment, especially the heavy construction types, has been equally pressing.

The big test, of course, of all of the Engineer work in operational basing was the June invasion of northern France. The job of assembling an American striking force in the British Isles began more than two years ago. Engineer maps and charts, and Engineer equipment helped courageous American soldiers break through Hitler's so-called Atlantic Wall. Five Engineer Combat Battalions have already been cited for Battle Honors in the assault across the Normandy beaches.

Newly developed Engineer weapons, such as a bulldozer blade for mounting on medium tanks, helped in the "break-out" which sent American armor slashing first into Brittany and then across north-central France in a plunging drive for Germany itself. Titanic efforts of Engineers on mine clearance, bridge-building and road repair have cleared the way for the tank columns. Behind the forward elements all types of Engineer units have rushed pipeline and railroad construction to help in the build-up of supplies which must sustain the advance.

In some Pacific areas, there are more Engineers than infantry—more Engineers than any other arm or service, as a matter of fact. The great preponderance of Engineer troops is made necessary by the lack of roads, ports, airfields, and other facilities in the Pacific theaters. Our strategy will require more such facilities as the Pacific offensive is stepped up.

Bases to Beat Japan

(Continued from page 89)

tion of bases on Bougainville and in the Admiralties. The Torokina and Piva strips on the former island are excellent cases in point. It was in late November of 1943 when the original assault was made, and within 24 hours, the Seabees were at work transforming the jungle into an airstrip. Construction continued at top speed until two airfields were completed—just in time to be of greatest use in throwing back Jap counterattacks.

In the central Pacific, it was the same story. Betio field at Tarawa was receiving planes 78 hours after Seabees commenced restoring it, and in the Marshalls, both at Kwajalein and at Roi and Namur, speedy construction of bases served to consolidate quickly the victory of our assault forces.

Fuel and ammunition depots, docks, wharves, machine shops, storage warehouses, hospitals, repair facilities—these and all the other installations of the Navy ashore have been built with the same speed as the aviation facilities.

Contributing to the speed in setting up and supplying our advanced bases have been two other functions of the Naval Construction Battalions. One of these has been the use of pontoons in getting equipment and materiel ashore and the other, the unloading of supply ships.

The other function—bridging equipment ashore over pontoon causeways and barges—is certain to play an important part in impending offensive operations. First tried out with great success at the invasions of Sicily and Italy, the technique was further developed in the Normandy landings by the use of Rhino ferries. Meanwhile other pontoon units were busy bringing in equipment over causeways during the invasion of the

Marshalls, and the Marianas. All of the experience gained in these operations will be concentrated in the final assault on the Japanese fortress of islands.

The Navy Supply Corps

(Continued from page 102)

ough and farsighted logistics planning by Area Commanders and prompt and efficient functioning by the Supply Corps and the Service Forces afloat.

Procurement of the Navy's supplies is a task of increasing magnitude. Food requirements of the Navy total 5,700,000,000 pounds for the fiscal year of 1945. Perishable provisions are procured through fourteen Navy Market Offices at a rate in excess of \$27,000,000 a month. Clothing, textiles and shoes for the Navy are being currently procured by the Bureau of Supplies and Accounts at the rate of \$11,500,000 a week. Aeronautical materials are procured through the Aviation Supply Office in Philadelphia at the rate of \$1,500,000 worth a day to maintain naval aircraft in flight. During fiscal year 1945, the Bureau's Fuel Division—the largest petroleum procurement agency in the world—will procure fuel valued at more than \$1,800,000,000.

The important point, however, is not the quantities of procurement ashore but the delivery of supplies to the Fleet ready for use at the right time and place in the kind and quantities required. Recent operations of the Fleet give the most eloquent evidence of how effectively all that has been accomplished.

Increasingly complex problems of supply are being solved by increasingly ingenious means. Results have been satisfactory, but it is the unswerving aim of all hands of the Navy Supply Corps to attain greater efficiency and more intensive efforts in the support of the Fleet.

The Spars Second Year

(Continued from page 95)

Reserve.

Another major activity of 1944 was the construction and commissioning of the new barracks for SPARS on duty in Washington, D. C., a five unit project which includes infirmary, recreation hall and auditorium and mess for SPARS, both enlisted and commissioned.

Completion of SPAR recruitment, except for replacements and special needs of the Coast Guard was announced on the second anniversary of the SPARS' authorization by Congress, 23 November.

These major developments of the year have resulted in an almost complete integration of the Women's Reserve with the varied and often exacting activities of the Coast Guard. SPARS and Coast Guardsmen work side by side in all of the District Offices of the Service and at many of its shore stations as well as Captain of the Port Offices, Merchant Marine Hearing Units, supply depots, warehouses, air bases and units, which are secret in character. At the air stations SPARS are Link trainer instructors, control tower operators, parachute riggers and office workers.

The year's developments have extended SPARS' activities and responsibilities until 26 ratings are now open to them. One of these ratings is Specialist, which includes nine different specialties. SPARS are performing tasks which correspond to 80 different civilian jobs.

The final class of SPAR recruits to train at Palm Beach, Fla., reported there 16 December. Beginning 6 January 1945, recruit training will be conducted at the U. S. Coast Guard Training Station at Manhattan Beach, New York.

Women's Army Corps

(Continued from page 94)

Army organization. They are still doing primarily the same relative type of work which women do in civilian life. They still bear the same relation to men of the Army that they would bear to the men of a civilian organization in which they worked. But they have the strong feeling of belonging now to the Army of the United States.

They have amply earned, I feel, that pride and that sense of belonging.

Wacs are now serving in every branch of the Army and in every theater. They are in France, Italy, England, North and Central Africa, Egypt, India, Ceylon, Australia, New Guinea, New Caledonia, Hawaii, British Columbia, Yukon Territory and Labrador. They are with the Army Service Forces, the Army Air Forces, Army Ground Forces and are even assigned, for headquarters and communications work, to combat elements of the Armies at the front.

At posts, camps and stations throughout this country (more than 400 Army installations) they perform tasks ranging from typist to post adjutant, from ward orderly to highly skilled X-Ray technician, from driver to officer in charge of the motor pool, from clerk to tower control operator, from cook to weather observer, from postal worker to parachute rigger.

So they are, in a very real sense, what they like to be called—officers and enlisted women of the Army of the United States.

Women Marines

(Continued from page 94)

In 1944, however, the emphasis swung definitely from the ground-breaking and foundation-laying activities requisite to a new organization to actual fulfillment of the purpose of that organization—in this instance, the taking-over of noncombatant duties so that Marines trained for battle might be freed to fight.

During 1944 the authorized quota of 19,000 women was filled. Enlistments were reduced to those needed for replacements. The variety of assignments increased to more than fourfold the number first anticipated. Equally satisfying, the women Marines changed from an inexperienced group, new to military life, to an organization that carried out its duties with veteran understanding, ease, and assurance.

Scattered from coast to coast—at training centers, procurement offices, supply depots, rehabilitation offices, posts, air stations, and at Headquarters—the women Marines are now filling billets almost as diverse as the total needs of the Corps.

At the air stations, to which fifty per cent of them are detailed, they are parachute riggers and repairmen, aerologists, control tower operators, Link trainer instructors, aviation mechanics, aerial gunnery teachers, 'radio operators, and photographers—to name a few. At other places, such as Marine Corps Headquarters in Washington, D. C., or the Depot of Supplies in Philadelphia, they carry on the less spectacular, but equally important, activities necessary to the administration of a far-flung fighting organization—duties such as filing and typing, record-checking and message-carrying, accounting and bookkeeping, multigraph and mimeograph operating.

That these assignments are actually releasing men to fight has been clearly demonstrated by the changing scene at almost every Marine Corps installation in this country.

Houdry discoveries helped the aircraft industry to set ahead the time table of aviation progress

Catalytic cracking, first developed and commercially pioneered by Houdry Laboratories, has influenced profoundly the advancement of aviation. Perfected by Houdry before the war, cat cracking provided the only means by which aviation fuel of higher quality might be pro-

duced in adequate quantity for any possible war requirements. Thus doubly assured, aeronautical engineers were enabled to develop, with no fear of fuel limitations, their most advanced designs; to bring closer, by many years, a new age of swift World Flight.

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Houdry Catalytic Processes and the T.C.C. Process are available through the following licensing agents to all American refiners, subject to approval by the United States Government.

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The National Guard—

(Continued from page 91)

this planning division, many individuals and groups—some with radical ideas, misconceptions, misinformation, personal animosities, grievances, stunted ambitions and what-not, have seized upon such a broad field of conjecture to perpetrate and propagandize their views, most of which threatened dire things to the civilian components of the Army of the United States of the future.

It would seem, at this time, that these individuals, officially and privately, can now pull in their horns and do their wishful thinking within the confines of the policies so emphatically and forcefully expressed by the one individual of the Army qualified or authorized to announce determined and fixed policy.

A War Department General Staff Committee composed of three National Guard officers and three officers from the Regular Army now have the subject of the organization, composition, and strength of the post-war National Guard under consideration. Any detailed statement at this writing would be premature. There is no doubt that the National Guard of the United States and the National Guard of the several states and territories will continue to exist as a first line component of the post-war military establishment. The personal integrity and loyalty of the officers and men of the National Guard, insures not only a continuing and increased efficiency of their own component, but their experience will be offered to improve and strengthen the overall defense structure of our Country.

One of the purposes of this article was to give some account of what the little element of 300,000 National Guard accomplished as part of the 7.7 million men of the Army of the United States, and this can be done only briefly.

Obviously, individual accomplishments cannot be included in this article in narrative form. However, preliminary to presenting the record in tabular synopsis, an acknowledgment of the service of 7 National Guardsmen who have been awarded the Congressional Medal of Honor, appears appropriate.

Capt. Addison E. Baker, AC, Ohio NG. (Lt. Col., AUS).

*1st Sgt. Elmer J. Burr, Co. I, 127th Inf., Wisc. NG.

2nd Lt. Ernest Childers, AUS, an enlisted man in Co. "C," 180th Inf., Okla. NG, at the time of earning the award.

*Sgt. Kenneth E. Gruennert, Co. "L," 127th Inf., Wisc. NG.

Sgt. James M. Logan, Co. "I," 141st Inf., Tex. NG.

*Pvt. 1st Cl. Frank J. Petrarca, Med. Det., 145th Inf., Ohio NG.

*Pvt. Roger W. Young, Co. "B," 148th Inf., Ohio NG.

At this writing a total of 61 awards of the Medal of Honor to the Armed Forces of the Army have been published.

The induction of the National Guard brought 20,920 officers, 221 warrant officers, and 279,358 enlisted men into the Federal service. At the conclusion of the 4th year of active service, 17,629 (85%) officers remain in active service. However, 224 resignations to accept appointments in other components of the Army and 213 re-ordered to duty in the Army of the United States subsequent to the Declaration of War, reduces the actual separations from the service to a total of 2,854 (13.6%). The National Guard Bureau does not have a record of the 437 officers included in former National Guard rosters and continued in service in the Army of the United States.

The record of the enlisted men of the National Guard certainly has not been exceeded by any group in service, whether

*Posthumous award.

commissioned or enlisted. They constructed some of the training facilities, cleared training areas, completed drainage systems, and in many other ways performed manual labor to make these areas habitable prior to the arrival of selectees sent to their units for training. All this in addition to carrying out training schedules which were not curtailed in any particular, other than by shortage of equipment.

Exact figures are not available at this writing relating to the total number of enlisted men commissioned in the Army of the United States, but reports received from Divisions and separate units indicate that an estimate of 60,000 commissioned from the ranks of the National Guard is conservative. This remarkable record would have been exceeded if those enlisted men sent with units of the National Guard to overseas stations prior to and in the first few months subsequent to the Declaration of War, had remained in the training areas within the continental limits of the United States. However, overall there was a superior spirit and morale and a psychological readiness for war duty that made opportunity for increased promotion and pay a secondary consideration.

Many National Guard officers have written letters of their personal ideas with reference to post-war planning and have helped materially those of us in the Bureau who are trying to formulate decisions on the subject. More such communications would be welcome.

The Reserves and ROTC—

(Continued from page 91)

officers, to such an extent that on 7 December 1941, there were 80,000 Reserve officers on extended active duty. This made it impracticable to order Reserve units into the active service, and consequently, the officers of the Officers' Reserve Corps, as individuals, were ordered to duty and assigned to appropriate positions in the rapidly expanding Army.

By February 1941, 25,000 were on active duty, stationed not only in the United States, but in its possessions as well. At that time, they constituted 60% of the entire commissioned personnel on duty with the Regular Army units in the field. The steady flow into the active service of these officers continued until, on 7 December 1941, there were more than 80,000 in the service, which was shortly augmented to more than 100,000. At the present time, there are on duty in the Army 184,000 Reserve officers.

A comparison between the confusion and delay of the procurement and training of emergency officers in 1917 with the orderly flow of these officers into the active service prior to the declaration of this war, presents an impressive picture.

The ability and professional fitness of these officers have been indubitably demonstrated in the combat phases of the war. They constitute the majority of the combat unit commanders. The officer rosters of five infantry and armored combat divisions disclose that 52% of the lieutenant colonels, 82.5% of the majors, and 70% of the captains are Reserve officers. Moreover, they command 53.8% of the battalions and 68.5% of the companies. These percentages are considerably more impressive in view of the fact that Reserve officers constitute only 28.8% of the entire officer strength of the Army.

These combat officers are largely the product of Reserve Officers' Training Corps, established in 137 colleges and universities. A few were appointed from the military schools of the country. Their

competency reflects credit upon these institutions, which have provided a type of education as advocated by John Milton in his tractate on education—an education which fits a man to perform skillfully all the offices of peace and war.

The abilities of these Reserve officers likewise are reflected in the promotions which they have attained during the emergency. Today there are eight times the number of lieutenant colonels serving in temporary grades as existed in the Reserve Corps in 1941, and constitute 56% of all lieutenant colonels presently serving in the Army. The majors have increased five times during that period, and total 55% of all majors now serving in the Army. The captains have quadrupled since 1941, and total 44% of all the captains in the Army. Since the total number of Reserve officers has only increased 67.5% during the period 1941-44, principally in the grade of second lieutenant, the record made is more impressive—80,293 Reserve officers have been advanced at least one grade; 51,428 have been advanced at least two grades; 10,812 have been advanced at least three grades; 621 have been promoted four times; and 19 have been promoted five times.

The future Reserve policy must provide for a stronger, more virile and larger ROTC system. The graduates of this program will not only officer the Organized Reserves and furnish a course for commissioned personnel for the Regular Army and National Guard, but will also insure an orderly and speedy expansion of our armed forces in any national emergency. Upon them will fall the responsibility of implementing the post-war policy recently announced by General George C. Marshall, Chief of Staff (War Department Circular 347, 1944).

Women's Naval Reserve

(Continued from page 95)

number of women officers are serving in Naval medical activities as specialists in occupational therapy, physiology, and such fields. WAVES are also assigned to hospitals as educational services officers to help guide patients who wish to study for future Navy or civilian jobs. Women have been trained in many fields which vary from Japanese language to radar.

A number of officers in the Women's Reserve are former enlisted personnel who have met the necessary service requirements to qualify for this promotion. The majority of the officers are now chosen from enlisted ranks, with the exception of physicians, dentists, and certain other specialists who can be secured only from civilian life.

There has also been a recent revision of the quotas for the procurement of enlisted personnel. Because attrition rates are lower than was anticipated in January, 1944, and limited service personnel from combat areas are being absorbed into continental shore establishments, it is expected that a monthly enlistment quota of 500 will be sufficient for replacements and for future additional Navy requirements for enlisted WAVES. The present number in the Women's Reserve meets current Navy needs in jobs for which women are qualified, though this will be increased if future requirements indicate that additional women can be used. The fact that American women have responded to the opportunity for service in the Navy in numbers sufficient for Navy requirements is a testimonial to their overwhelming desire to do their share in making the world of tomorrow.



He forged for his country, from the rawest of stock, the one indispensable weapon of victory . . . air power. We in the industry may count ourselves fortunate to have been identified, in whatever capacity, with that achievement.

**REPUBLIC AVIATION
CORPORATION**



Southwest Pacific Area

(Continued from page 76)

strongpoint provided staging areas and shipping bases to protect an advance of wider proportions than heretofore possible. In the expedition from Hollandia to the Island of Leyte (20 October 1944) carrier support by the Third and Seventh Fleets supported the disembarkation of two corps.

The enemy made major counter efforts in a brilliantly conceived naval movement involving his main battle fleet. The wing attempting to force Surigao Straits was destroyed by heavy units of the Seventh Fleet while the central column of the Jap first line operating in Leyte Gulf was held by a gallant local defense by Seventh fleet carriers and intervention by Third Fleet Carriers. This Leyte operation is again typical of prevailing S.W.P.A. strategy to seize a vital point, split the enemy front, and defeat remaining fragments in detail. Leyte will ultimately insure control of Visayas, and the isolation of Mindanao and Luzon.

The enemy's major efforts at sea and in the air, denuding his entire defenses, will ultimately effect the grand strategy of the Pacific. In successive operations since 1942 an advance of 2,300 miles has caused the destruction or annihilation of twelve to fifteen Jap Divisions and Brigades—an impressive stream ranging from Bougainville to Leyte.

Economy in war is a form of bookkeeping in payments that are final with the White Cross our signature. General MacArthur is an excellent bookkeeper and a great humanitarian. The trial balance in the important campaign of Aitape is typical—the ratio in killed being one to thirty in favor of the Americans; the tally, Americans 285 killed, Japanese 8,065 killed.

The advance of a thousand miles from Finschafen to Bogelkop was accomplished with aggregate costs of 10,031. The grand total of American battle casualties in the Southwest Pacific area is 16,278 men and 2,479 officers killed, missing, and wounded ranging from slight to serious.

This economy in lives is paralleled in general economy of supply and maintenance. In 1943 the comparative ratio of personnel shipment to S.W.P.A. roughly was one-third that of Europe, and one-half of North Africa but in cargo the S.W.P.A. received slightly over one-third of North Africa and was below what went to the North Pacific. General MacArthur was able to supplement his supplies by drawing heavily on local production in assisting coordination of Lend Lease activities based on cordial relationships with the government of Australia. In a recent statement Prime Minister Mr. John Curtin said: "The Commander in Chief has been in close association with my government. His position has been one of delicacy fraught with possibilities of trouble. It is my great pleasure to state that the most cordial relations have been maintained and the closest working cooperation established. General MacArthur has displayed all the qualities of an able diplomat as well as those of a Great Commander. I vividly recall the critical stage of the New Guinea campaign when every civilian service in Australia was suspended to provide the Commander in Chief with the transport aircraft to support his operations. The incident was typical of the intimate cooperation existing between General MacArthur and this Government. With relatively little loss of life and the minimum of frontal assaults by Ground Forces, enemy strongholds have been bypassed,

rendering possible a new conception of offensive power in the realm of strategy, tactics, and logistics. General MacArthur has achieved the main objective of his directive to hold Australia as a base for future offensive action against Japan and to check Japanese aggressions in the Southwest Pacific Area and prepare to take the offensive."

Against a background of brilliant central strategic themes, the factor of personal leadership is outstanding. General MacArthur has personally accompanied each important operation, generally landing with a shore echelon, thereby adding that psychological touch which has inspired soldiers through history to give their last ounce of energy to the Commander who accompanied them.

Serving the Armed Forces

(Continued from page 88)

is present to keep firmly established a link of communication between the service man and his family at home, to aid in solving the welfare and personal problems of the men in service. Secondly, his task is to carry in comfort supplies to replace those our fighters lose in battle, and to perform other non-military duties the commanding officer may assign. He works closely with the Chaplain and the Special Services officers.

The first women Red Cross workers on the beachheads have been the social workers and recreation workers assigned to evacuation hospitals. Theirs is a task also of distributing comfort articles, writing letters, performing duties assigned them by the doctors and nurses.

An innovation in World War II has been the Red Cross clubmobile, staffed by Red Cross girls from home, who have become a part of the motor cavalcade in the military groups to which they have been assigned. They move as far forward as commanding officers will permit, bringing coffee and doughnuts, music, books, magazines to men of the combat forces, or to others on isolated posts.

The Red Cross leave clubs in the cities and towns of the major theaters of war also are a new project in World War II. Established upon the request of the Chief of Staff, U.S.A. first in North Ireland where hotel facilities were unobtainable for men on leaves, the clubs were so popular that almost 350 have been opened by the Red Cross overseas.

In the performance of their duties overseas, 28 Red Cross workers have given their lives—some at sea when their ships were torpedoed, some in airplane crashes, one Field Director by enemy fire, and a woman hospital worker on Anzio beachhead from enemy airplane bombing. Five Red Cross men and women have been decorated—Silver Heart, Bronze Star, Purple Heart. Many others were slightly wounded, many have been hospitalized from tropical diseases, several hundred have received citations or commendations from the commanding officers of their units.

Keeping the Home Front Informed

(Continued from page 99)

lists of awards and of promotions. Beyond this it facilitates the press in following out its own particular interests, arranging interviews, accrediting writers and cameramen to Army posts and maneuver areas and to active theaters overseas where news is to be found.

In preparing for the invasion, the arrangements for the correspondents were an integral part of the operation, a sub-

ject of the most exhaustive advance planning. It was far more than a job of assigning these civilians places on the transports and in the assault boats. Long before the first ships left the shores of England, the communications network which would carry their dispatches, their broadcasts and their photographs was given careful scrutiny by Army technicians, working with their opposite numbers in the British Government.

It was apparent immediately that the available facilities would prove far short of adequate to carry the vast load which these correspondents would be sending to an anxious public in Great Britain, the United States and Canada. As a result, the capacity of the systems was almost doubled. In addition, arrangements were made to ferry correspondence and pictures back to Great Britain by plane and ship. Regular flights between Great Britain and America brought copy and photographs to New York and Washington in a day's flying time.

The eagerness of the American public for the full story of the war has required of the Army the same sort of careful planning which goes into other phases of a military operation. Getting back news of the fighting fronts to this country is part of the military operation. In this light, the Army has approached its job, constantly bearing in mind the axiom which General Eisenhower phrased so well to the correspondents that morning when they first learned that invasion was coming soon: "Our countries fight best when our people are best informed."

Navy Public Relations

(Continued from page 99)

shot 70,000 feet of motion picture film; prepared 256 press releases; originated or assisted in the preparation of 243 magazine articles and 203 radio programs concerned with Naval aviation; issued nearly 2,000 press releases, processed 452,000 still photographs; reviewed for security more than 16,000 press and magazine articles, books, radio scripts, speeches and advertisements; answered nearly 3,300 requests for information; supplied data to more than 2,200 radio programs gathered historical material for the launching of 672 ships; and prepared more than 170 official letters and statements.

These figures refer only to the work of the main Public Relations Office in Washington and its immediate branches in New York City. In addition, of course, are the innumerable activities of the public relations offices attached to the various Naval districts and Naval activities throughout the United States and its outposts.

Finally, of course, there comes the work of the Public Relations officers attached to the operating units of the Navy overseas. Theirs is the hardest job of all: seeing to it that the news is properly covered, speedily transmitted to base points, and quickly cleared for distribution to the public. Last February, news history was made when ship-to-shore radio communications were set up for the coverage of the Marshalls invasion. The largest press corps ever to report a Pacific action up to that time—34 correspondents, 3 photographers, and one newsreel cameraman—was with the task force which carried out the action. They were able to transmit eyewitness accounts from the scene of action. President Roosevelt subsequently released an appreciative telegram from Roy Roberts of the American Association of Newspaper Editors which described the handling of the Marshalls news as setting a high mark in Navy cooperation.

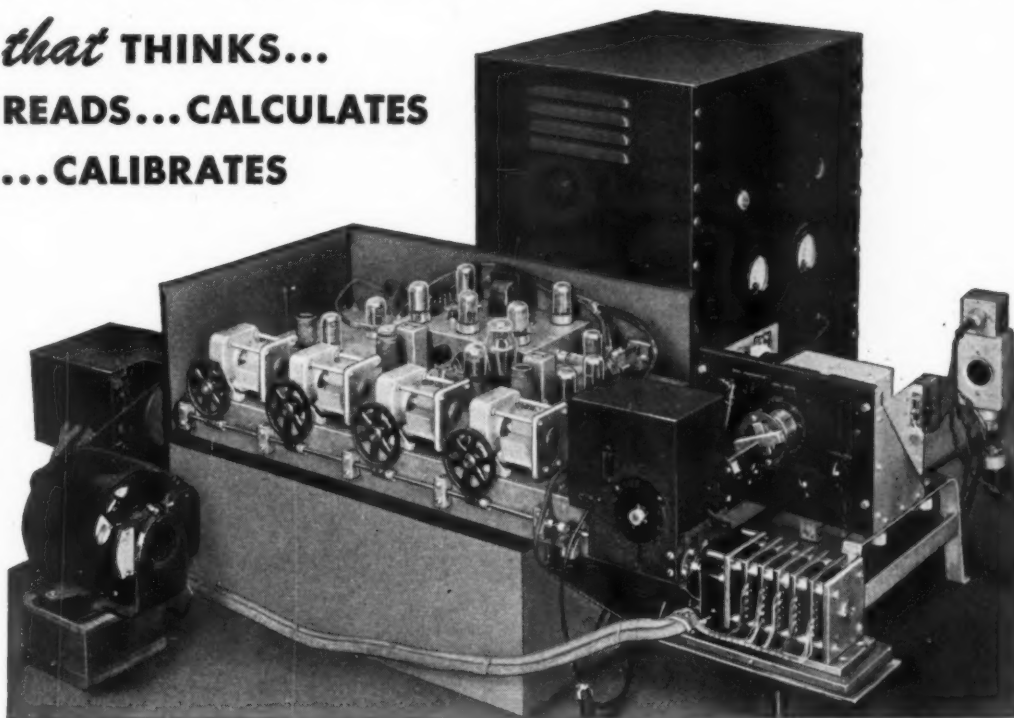
Electronic Wizardry

Philco Engineers Create a "Master Mind"

that THINKS...

READS... CALCULATES

...CALIBRATES



AMONG PHILCO's many contributions to the war effort was the creation of the electronic "*Master Mind*" pictured here. Last year alone, it saved 144,000 man-hours of labor and, with other economies, reduced the cost of one type of radio equipment to the Government by \$1,170,000.

Perfected only after many months of exhaustive research and development by Philco engineering ingenuity, this device replaced a tedious and intricate hand calibrating operation, which was slow and subject to human error. Employing 126 tubes, the Philco "*Master Mind*" can "think," calibrate, calculate, and record

dial readings many times faster than any human being—at a great saving of time and without danger of error.

Another example of Philco research and engineering "know-how" which, while fulfilling emergency war needs, promises important peacetime applications in industry after Victory!

PHILCO

CORPORATION

Allied Air Over Burma

(Continued from page 84)

larger.

The gasoline for what RAF fighter squadrons remained in the area had to be supplied by air. An entire division was transported from the Arakan to the Imphal front in 738 sorties and two brigades also were flown in. The mass of supplies dropped to the besieged troops included even drinking water, after the enemy had seized the wells. And although it was not until June that the Jap was defeated, not only were the defenders entirely supported by air, but all other commitments along the front were met. And once again, long-range American fighters, catching the Japanese on and over their own fields, kept air opposition to a minimum, while RAF planes gave constant support to the embattled ground troops. There again Air Marshal Sir John Baldwin's 3rd Tactical Air Force did the trick.

But the most sustained air support for ground operations was that given Gen. Stilwell's troops in their drive which culminated with the capture of Myitkyna on August 4. Medium-bombers, fighter-bombers and fighters of Maj. Gen. Howard C. Davidson's 10th USAAF covered the advance every foot of the way, sometimes maintaining a bomb line only 25 yards ahead of the troops. And when the monsoon washed out the Ledo Road, on which the Stilwell forces were dependent, virtually all supply had to be from the air. The long siege of the city ended only after our planes, flying from a strip only 2,000 yards from the front lines, had left the city a shambles and burned the last defenders from their heavy, deep fortifications.

So closely did the air units serve the ground forces, working virtually as mobile artillery, that Major General Frank D. Merrill, commander of the Marauders, sent the following message at the successful conclusion of the campaign:

"I would like to express through you my sincere appreciation for a continuously splendid and efficient air support job by all units of the Army Air Forces in this theater which have supported this operation. Fighters, bombers, troop carriers, liaison squadrons, tactical reconnaissance squadron and the photo intelligence unit have all given us better support than any ground unit could reasonably expect. We feel that with our air-ground team we have caused more serious damage to the Japanese ground forces than is generally believed and have had a swell time working with all the various air units. My job would have been absolutely impossible without the complete and whole-hearted cooperation of your various units."

I would like to pay tribute to the other USAAF organizations without whose contributions the air success in this theater would have been impossible. The CBI Air Service Command, under Maj. Gen. Thomas J. Hanley, Jr., has done an outstanding job in servicing, repairing and maintaining aircraft. Improvisation and inventiveness have been the rule. The CBI AAF Training Command, under Brig. Gen. Julian B. Haddon has made a great contribution in training Chinese and American pilots and air crew members. The work of the India-China Division of the Air Transport Command under Brig. Gen. Thomas O. Hardin is so well known that I need not elaborate on it here. And in all these operations, too much credit cannot be given to Air Vice Marshal T. M. Williams, who was Assistant Air Commander, Eastern Air Command.

14th Air Force Operations

(Continued from page 85)

proximately half was confirmed sinkings.

In number of ships sunk, the Fourteenth Air Force has piled up a greater score than any other organization or service.

This statement is made with the certainty that it may be challenged on the basis of tonnage. But tonnage totals, for reasons apparent to anyone familiar with Chinese coastal and river shipping, do not include more than 1500 miscellaneous craft of less than 100 feet in length, and 15 naval vessels (gun boats, minelayers, and destroyers) sunk; 245 miscellaneous vessels and 9 naval vessels probably sunk; and 4,151 miscellaneous craft and 13 naval vessels damaged.

These 5,900 miscellaneous vessels and 37 naval vessels sunk, probably sunk, or damaged (and not included in the tonnage figures) represent in part the big junks and sampans and tugs of river, coastal and overseas shipping so badly needed by the Japanese supply lines and troop transport in China.

In my opinion, these shipping losses inflicted by the Fourteenth Air Force hit the Japanese harder than mere figures can reflect. They came as a surprise. I do not believe the Japanese had ever estimated that the capabilities of the Fourteenth Air Force included destruction of enemy shipping on the high seas. Those losses have been very serious for them, and have greatly handicapped their activities along the China Coast.

Efficiency of our operations may be measured in figures like these:

We have successfully attacked one ton of enemy shipping with specially equipped bombers for every 1.2 gallons of gas consumed over the period, May to the end of August. In that same period we have sunk 800 tons of Japanese shipping for every ton of bombs dropped. This probably establishes a global record for economical aircraft operations against enemy shipping. These statistics do not include five naval vessels successfully attacked.

In our almost continual counter-attack against enemy air forces we have been most successful, with a ratio of 9.7 enemy planes destroyed in aerial combat to one of ours lost. The ratio of enemy planes destroyed in air and on the ground as against Fourteenth Air Force losses due to enemy action in the air and on the ground is 5.5 to 1. The ratio of enemy planes destroyed and probably destroyed as against our losses due to enemy action is 8.1 to 1.

Thanks largely to the co-operation of the Chinese people, only one pilot or crew member was lost for every four of our planes lost due to any cause, during a recent six-month period of our heaviest operations.

In our operations since March, 1943, we have flown 36,250 sorties of all types including photo reconnaissance missions which have kept the United Nations well informed concerning enemy dispositions, operations, installations and movements in China, Indo-China, Burma, Thailand, Formosa, Manchuria, the Philippine Islands and in Japan, itself. These long-range photo missions, flown by pilots in single-seater planes, often involve long flights through bad weather over water and hostile territory.

At all times we have been under the compelling necessity of conserving supplies and operating with personnel reduced to bare minimums. With none of our units up to TO strength we continued

intensive operations nevertheless. In that connection the Chinese have been of great assistance. They have supplied manpower where required and suitable, in airdrome construction, guard work, cooks, KP's and coolie labor.

Naturally, our operations have been a source of inspiration to the Chinese in the darkest hours of their long national history. They have come to rely on our airplanes for protection and support in both defensive and offensive operations, often to the point of embarrassment. I do not think we have disappointed them, despite our own great needs and shortages which they recognize. Since 27 May on the so-called Hunan front, in the Salween area, and on the Yellow River front we have supported them continuously. Since May a year ago our air support liaison teams have been with their armies. Until that time no foreigner had been able to take the field with the Chinese armies. Even war correspondents could not stay in the field with their troops.

They have seen our planes deny the Japanese the use of the much needed Ping-Han Railroad north of Hankow despite enemy ground successes. They have detailed knowledge of the damage we have inflicted on enemy supply lines, in trucks, bridges, railway lines, marshalling yards, water tanks, and rolling stock destroyed. They have watched our interdiction of iron, coal and phosphate supplies needed by the enemy in China and Indo-China and the destruction of factories operated by the Japanese.

They have watched Japanese shipping dwindle along with Japanese aircraft. How badly we have cut down Japanese air power is reflected in our low combat losses, plus the statistical fact that in all Japanese bombing raids on our installations since March, 1943, the Fourteenth Air Force has lost two officers and 10 enlisted men.

OWI and Psychological Warfare

(Continued from page 98)

on extensive radio broadcasting and leaflet distribution. Millions of leaflets were produced daily in London and dropped behind the lines by airplane to be read, in spite of the Gestapo's best efforts, by civilians. "Surrender leaflets" were shot into areas where they would be picked up by German troops and they proved extremely effective in reassuring them about Allied treatment of prisoners and inducing them to give up a hopeless battle.

Radio propaganda was used with even greater effect, especially on enemy civilian populations where war morale was based to a large extent on the false picture of Germany's strategic situation presented by Goebbels. Puncturing of this protective film of lies was achieved by broadcasting spot news with such real objectivity that it eventually induced doubt about the German picture of events, and ultimately undermined it almost completely.

Essentially the same techniques are being used in the Pacific. OWI is broadcasting in twenty-two Pacific languages and dialects, including the Japanese. The Japs are not as susceptible to propaganda as the more literate and rational Germans but there is already evidence that psychological warfare directed against them is having an effect. Both Jap soldiers and civilians are going to be thinking more and more "dangerous thoughts" in the next few months.



MEN MUST SEE TO FIGHT... *Not fight to see*

That's the resolution behind Libbey-Owens-Ford's production of glass for war.

The specially curved glass, plastic and metal nose of the B-29 is a case in point. Acting as a windshield through which pilots sight for landings and also as a special sighting window for bombardiers—it calls for precision in every detail. Careful control is required to produce bends incorporating the greatest possible freedom from optical distortion.

In other planes—in land-fighting vehicles—and on fighting ships—similar production problems were answered.

Libbey-Owens-Ford has attained new levels of precision in the production of glass for searchlight segments, tank prisms, reflector plates for gun sights, aviators' goggles, bullet-resisting windows, and for many other applications in the weapons used by the armed forces.

Not all wartime uses of glass are as dramatic as the nose of the B-29—but in hundreds of ways, L-O-F Glass has devoted its manufacturing plants and skills to helping men “see to fight—not fight to see”. Libbey-Owens-Ford Glass Company, 77124 Nicholas Building, Toledo 3, Ohio.



LIBBEY • OWENS • FORD

a Great Name in **GLASS**

Gen. Sultan's Article

(Continued from page 83)

the enemy lines. They fought their way northward, constantly harassing enemy communications, to meet the southward drive of the Chinese and Americans. The works of this organization contributed in generous measure to the success of the campaign.

On 30 March Shaduzup fell, and the allied force had cleared the Hukawng Valley. April found the combat forces well into the Mogaung Valley, pushing toward Kamaing and Mogaung. Myitkyina, the Jap stronghold on the Irrawaddy River, was the big objective in this phase of the campaign. By a brilliant, surprise maneuver the Marauders, with Chinese units attached, made a wide sweep through the jungles, seizing the Myitkyina airfield on the 17th of May.

Planes with sufficient reinforcements to hold the captured airport landed immediately. But there were not enough combat troops on hand to take the town. Before additional men could be brought in the Japs, by hastily regrouping their forces and doggedly contesting every foot of ground, entrenched themselves so thoroughly that the fall of Myitkyina was delayed for almost three months.

Meanwhile, other Chinese troops were forging ahead through the Mogaung Valley. They captured Kamaing on the 16th of June. Another surprise penetration movement brought part of the allied forces to Mogaung which was taken on the 26th of June. By the middle of July troops at Kamaing and Mogaung had made contact with each other, and two weeks later the line extended all the way to Myitkyina. The British Chindits effected a juncture and now became integrated in the Burma command.

The siege of Myitkyina was a football game with the Chinese and Americans measuring their gains by yards. Week after week dragged by. The Air Force gave magnificent support, strafing Jap supply trains, bombing enemy positions and lines of communication, flying their tough missions through the heavy murk of the Burma monsoon. By the 3rd of August flame-throwers had driven the last Japs from their concrete pill-boxes and the tunnels which spread under the city like rabbit-warrens. For the rest of the summer tactical operations were concerned with pushing the Japs below the Mogaung-Myitkyina line and cleaning up the rubble of Myitkyina.

As far back as May Chinese soldiers, trained in Yunnan by the American Y Force Operations Staff, had been forcing the Japs westward across the Salween River. Fighting over high, rugged country they contrived in September to rout the Japs from Tengchung, and then directed their attention to Lungling, a key point in the Ledo-Burma roadway.

The success of these operations was possible because of the splendid cooperation, and the coordinated missions of the Army Air Forces in CBI. This year proved the efficacy of air supply to ground troops. In the jungles of Burma, in the mountains of Western China, units cut off from all orthodox means of supply, were kept going by air-borne supplies and reinforcements. Troop carrier squadrons flew difficult missions day after day to supply our forces. The Air Force gave complete tactical support to the operations. The 14th Air Force, one of the smallest American Air Forces, covers one of the largest areas of operation. They harassed Jap sea lanes from Tongking Gulf to the Straits of Formosa. Their fighters and bombers hampered the Japanese drives in Central China. They fur-

nished air support to the Salween drive. The 10th Air Force operated over the Burma campaign, relentlessly bombing and strafing enemy positions, installations, and communications. As the ground troops advanced, the air forces advanced with them, flying missions from jungle air strips close behind the front lines.

The ATC flying the now famed "Hump" achieved a new efficiency peak, and built up new tonnage figures beyond the expectations of the most optimistic experts.

A great deal of credit must be given to the Services of Supply in the C.B.I. Theater. No military force can function properly unless it is well supplied. The friendly spirit of the British in making port facilities available, and providing storage, contributed much to the high record our port battalions achieved in unloading ships.

The China-Burma-India Theater is accomplishing its mission. The end of 1944 brought a land route to China nearer to accomplishment. The effort of the Americans operating together with the British and Chinese is helping to pave the way for the defeat of Japan.

"CBI" by Gen. Stilwell

(Continued from page 82)

and supplies and to allow the shorter flights. The equipping of the Chinese Army has been and will be for some time, dependent on the "Hump."

Combat in the Theater has not yet reached the large proportions of the European war, but American, British, Chinese and Indian troops have been in action in Burma almost constantly since November, 1943. The first engagement between American combat troops and the Japs took place in March, 1944, when Major General Frank Merrill and his Marauders bit deep into the Jap flank and rear at Walawbum in North Burma, in conjunction with the Chinese offensive which had then been going on for three months. Again, in May, after numerous actions in the Mogaung Valley, the Marauders and two Chinese regiments force-marched along muddy trails and jungle to push the Japs off the Myitkyina Airfield, preluding the siege which ended in the capture of this key town in North Burma.

Chinese troops in Burma have proved themselves among the best soldiers in the world. From late fall of 1943 to late summer of 1944, they pressed on continuously into the Japs, from Shingbwiyang to Mogaung and Myitkyina, opening up the trace for the vital Ledo Road. With good equipment and food, trained, and under competent leadership, these soldiers can themselves push the Japs out of Burma and eventually out of China.

The British Army in India, under India GHQ and under SEAC command, has worried the Japs in the Arakan and stopped the Jap drive on Manipur, taking a heavy toll from the three Jap divisions involved.

In Northeast Burma, the Chinese Expeditionary Force attacked across the Salween in June 1944, and after taking Tengchung, is hammering at the town of Lungling, strongly garrisoned by the Japs and a key point on the old Burma Road. Further east, in China proper, the Chinese Army is under attack by the Japs in their drive to take Kweilin, critical pivot of the large air bases in East China and site of the advanced headquarters of the 14th Air Force.

Air superiority in the Theater was established in the spring of 1943 and has

never been disputed since. The 10th Air Force in India has bombed and destroyed supply installations and communications in Burma for two years. Its fighters and bombers supported the North Burma campaign. Its transports were the work horses of supply, and its crews did an excellent job of loading, manning, and dropping. The 14th Air Force and the Chinese-American Composite Wing have accounted for considerable naval tonnages in the Formosa Straits and China Sea and have hindered enemy supply in their ground drives.

Other preliminaries, every bit as important as those mentioned in detail, come to mind. The Infantry Training Centers for the Chinese Army in India and China where Americans instruct Chinese in weapons and tactics, the air depot in western India where Chinese pilots take on a polish in combat flying, the glider outfit which carried American engineers and British Tommies deep into Burma to harass enemy supply lines, and the different headquarters where American, Chinese and British officers and men formulate plans or untangle supply problems.

All have done well. All have contributed their energy to swell the whole into the one fighting machine which must soon put on the main show—the show which will push the Japs off the continent of Asia, off the Malayan peninsula, the Indies and off the Islands themselves into the sea.

South East Asia Command

(Continued from page 87)

In North Burma Chinese-American troops pushed down the Ledo Road to open the land route to China and to secure air fields that would protect the U. S. aircraft flying the "hump." The brilliant operation that led to the capture of the Myitkyina air strip on the 17th of May and the subsequent consolidation of the Myitkyina-Mogaung area eliminated the Japanese threat to the air ferry route and brought these Chinese-American forces to within 112 miles of Chinese troops fighting into Burma from the Salween.

Supporting these Allied offensives in North and Central Burma were the Long Range Penetration Groups under daring British Major General Charles Orde Wingate. These forces operated against Japanese lines of communication in Central Burma and were separated from their front lines and from their own supply bases by hundreds of miles. Combat and logistical support was conducted by the U. S. Air Commando units of colorful Colonel Philip G. Cochran.

On the sea, there were swift task force strikes against important objectives from Sabang to Soerabaya. The fleet air arm pounded vital installations and the ships closed for naval bombardment of key shore positions. In addition, the famous B-29 Very Long Range Bombers based in India and staged through advance bases in South East Asia bombed important strategic targets in Sumatra, in Japanese occupied China and in the heart of Japan itself. The U. S. Air Transport and Air Service Commands exerted prodigious efforts this past year and have nearly tripled the tonnages per month flown over the Himalayan Hump.

Another monsoon has ended. South East Asia Command is a year old. It has established complete sea and air supremacy in its area. Its land forces have fought through the monsoon and now have the initiative. The enemy's hold on Burma is almost broken.



This is Coxswain Antone Joseph Mell, of Lulea, Calif., whom we Americans sent to do our fighting with our fleet in the Pacific.

"You've got to give up something"

"Before I ever saw action — how long ago that seems — I remember discussing with the rest of the boys the cost of each shell and griping about it.

"Then came the Japs, and we wised up. They're tough fighters, hard to stop. And when you realize that stopping them is the one important thing, price no longer matters.

"It cost *me* a foot. But I don't mind. You've got to give up something, you know."

War Bonds are investments, you know, not sacrifice! How many of them is a foot worth?

REVERE COPPER AND BRASS INCORPORATED is working now to analyze every job which men with physical disabilities could perform, so that these jobs can be made available first to returning wounded service men.

Sea Pathways to Japan

(Continued from page 79)

at a score of different points, the Allied band around him forestalling any chance of rescue or survival.

As this is being written that band has closed about the Halmaheras and is in the process of including within its confines the enemy's conquests in the East Indies. Its expansion was brought about by the recent by-passing of the Halmaheras in the taking of Morotai—fourteen miles to the northeast—on 15 Sept.

That operation has severed completely the Halmahera-Philippine line and has permitted the setting of Allied sights toward the obliteration of the entire Japanese empire. The latest springboard of Morotai is only 300 miles from the Philippines.

But before that swift strike at Morotai, as in all others, there was the groundwork laid by light Naval craft, Army and Navy aviation and Naval artillery.

A constant nightly war in enemy waters has been waged by Allied light Naval craft, predominantly PT boats. Their bases have been pushed forward steadily that they might patrol coastline deep in enemy territory and keep forward troops in a constant state of blockade.

Naval air activity has revolved principally around the missions of Catalina (PBY) squadrons, which not only include patrols in various enemy seelanes, but also engage enemy convoy traffic. The Cats have supplemented this major work with strafing and bombing strikes over land targets, and with sea rescues of Army aviation personnel forced or shot down during strikes on a wide variety of localities.

Navy type Liberator (PB4Y) anti-shiping units have been attached to this theater's Naval air arm. Based in forward areas, they have fanned out daily far behind the enemy's secondary defense lines, and in their limited number of missions have hung up a fat record of kills.

No contested landing could meet any measure of success without Naval artillery. Allied cruisers and destroyers have been blocked for the assault forces by preparatory bombardments which take out the enemy's fixed defenses and shore batteries and drive off or demoralize his troops. As H-hour approached, the firepower of every available warship has been concentrated on the beaches.

It is in this work that the Royal Australian Navy has played such an important role. RAN warships have helped cover and support by bombardment and have taken their share of the escorting of the echelons of support and supply shipping. A large number of officers and men of the RAN were involved in the simultaneous Humboldt-Tanah-Merah-Aitape operations.

Another important factor in the disruption of the enemy's effort to maintain his front in SWPA has been the tremendous, ceaseless and silent war being waged by our submarine force. Current reporting must for the moment be deprived of their mighty story, but in the annals of history their chapter will be truly dramatic. Many Jap soldiers and airmen who would otherwise have required considerable effort to kill—by bullet, bomb or starvation—have been eliminated by torpedo long before reaching the SWPA.

No single one of the units could have done the job alone—all have joined in the teamwork that has set the Jap forces on the return trip to Tokio and eventual oblivion.

The second day of this year marked

the seizure of Saidor, which was the complement of the invasion of Finschhafen and completed the control of Huon Peninsula. Similarly, the taking of Talasea on 6 March extended the area first seized by the marines at Gloucester and extended the securing maneuver of the seaway formed by the Vitiaz and Dampier Straits and begun late in 1943.

Taking of Los Negros, 29 February and Manus, 15 March, secured the Admiralty Islands, won control of the Bismarck Sea, and sealed the fate of Rabaul. Then came the sweeping blow, made possible by earlier advances which had deprived the enemy of his hold on the north shore of New Guinea. On 22 April, landings were made simultaneously over a front of 150 miles at Aitape, Humboldt Bay and Tanahmerah Bay.

Quick advantage was taken of this deroulement of the enemy's flank by the successive landings at Toem and Wakde on 17 May. Biak ten days later, and Noemfoor on 2 July, securing the Schouten Islands which control the Geelvink Bay area. The enemy's last stronghold on New Guinea was neutralized by the Sansapor landing 30 July. Six weeks later came the important, strategic conquest of Morotai.

Air in S.W. Pacific

(Continued from page 78)

smoldering piles of what had once been fuel, aviation stores and food supplies.

On 22 April 1944, MacArthur bypassed Jap-held New Guinea from Madang to 75 miles west of Wewak, seized the Tadji airstrip just east of Aitape and occupied Hollandia. The bomber line had jumped forward another 500 miles.

An excellent field at Wakde Island, 100 miles west of Hollandia, was seized on 17 May, after a whirlwind series of air attacks had rendered the defenses impotent to stop our amphibious forces from landing. The bombers moved in and MacArthur looked still further forward. Biak and Noemfoor looked attractive. The Jap was working like a beaver putting in three fields on each one of these coral islands, and coral is nice stuff to work with when you want airdromes in a hurry.

The bombs started dropping, the strafers burned up planes, fuel and supplies and destroyed barges and vessels all over Geelvink Bay and up to the Halmaheras, while the fighters shot down the Nip aircraft that managed to get off the ground to argue about the efficacy of our formula. Biak was seized on 27 May, and the formula proved again on 2 July when Noemfoor was added to MacArthur's string. Our amphibious expeditions were still landing with their rifles on their backs. In the SWPA our troops have yet to fight their way up a beach.

On 31 July, Sansapor, about 50 miles east of the Western tip of New Guinea was occupied and in three weeks our aircraft were based there on strips carved out of primeval jungle. In the meantime, every Jap field in the whole Netherlands East Indies east of the Celebes was being relentlessly hammered apart. The Nip could no longer take it. He couldn't replace his losses; his shipping capacity was unable to stand the strain of constant attack and destruction from the air.

By the time we occupied Morotai, the northernmost island of the Moluccas on 15 September, the Jap had abandoned any attempt to combat our air supremacy east of the Celebes. In fact, the evidence is beginning to gather that he is going to have trouble, contesting the air even in the Philippines themselves. On 1 Sep-

tember, we raided his airdrome in the vicinity of Davao. Twenty-seven fighters and eleven bombers were destroyed on the ground, some while attempting to take off. Only nine fighters came up to meet our bomber formation and only one of them came close enough to press an attack. It was shot down. The next day another heavy raid on the Davao area encountered only three Nip aircraft. They too were shot down. It looks as though the Jap air power is still backing up as we move forward. Maybe they have learned something from Rabaul, Wewak, Hollandia and other graveyards of Jap air power along the route. A few more backward movements and they will be right back home. That is the end of the trail and it isn't far off.

Task of the Australian Army

(Continued from page 77)

nullified for the enemy, the strategic offensive value of the troops which he has maintained in the by-passed sectors, this technique has not substantially reduced their defensive qualities. We have no reason to believe that the Japanese is an any less tenacious fighter today than he was, when we, fighting almost a lone battle, first encountered and defeated him in New Guinea.

The Australian Army's last combat actions in 1944 cleared the Japanese from the Ramu Valley and Huon Peninsula and dispossessed them completely of their hold on the Northern coast of New Guinea as far west as the mouth of the Sepik river. This campaign, which lasted more than a year, began in January 1943 when Australian troops drove the Japanese from Wau. Its second phase opened in September 1943, when the Australian 9th Division landed on the shores of the Huon Gulf and the 7th Australian division, preceded by a U. S. parachute regiment, was airborne into Nadzab.

Almost every mile of this campaign meant the elimination of the Jap by killing. It is only by the alternatives of killing or unconditional surrender that the Japanese will be dispossessed completely of his conquests. It is with this realization that the Australian Army has trained. We are now ready to undertake those essential tasks to which we have been committed; and those to which we may be allocated by the Combined Chiefs of Staff.

Role of VLR Aircraft

(Continued from page 81)

from the United Kingdom to Hamburg or Bremen—is beset by the greatest hazards with which nature and the elements can endanger flying.

Despite the distractions of an unfavorable climate, overburdened lines of communications, the unending transport problems to far-flung bases, the difficulties of maintenance, and the normal amount of "bugs" in any new and complex mechanism, B-29 operations have succeeded according to plan. Strategic targets have been attacked and seriously damaged. The enemy has been harassed and contained at a time when he would like to be free to defend his crumbling empire against the Pacific offensive.

During the months to come, ever-increasing B-29 attacks will be made upon the Japanese. Strategic targets will be pin-pointed and blasted frequently and furiously. Industries, naval bases, docks, ship building facilities, marshalling yards, and military installations will be attacked in accordance with priorities based upon their strategic importance. B-29s will find these targets—bomb them—and destroy them.



Courtesy Boeing Aircraft Company

Men who work in the realm of tomorrow!

To blueprint the B-29—symbol of America's just revenge for the betrayal of Pearl Harbor and the holocaust of Corregidor—took men of skill, of courage and vision. Craftsmen who could produce tomorrow's planes—today. America is proud of them and their builders.

But there are still others who work in the realms of tomorrow who deserve their full share of recognition and praise. Take for instance, those who engineered the fuels which power these super-fortresses.

As far back as 1935, Sun Oil Company was pioneering in the processes which gave birth to today's

super-fuels—and since Pearl Harbor, this Company has increased its output of 100 octane aviation gasoline by 4000%.

Great as was this accomplishment, it was but an early step to the super fuels Sun Oil Company is now delivering for the use of our air-fleets . . . fuels which are, literally, liquid lightning, so great is their power, their lifting capacity.

Sun Oil, too, is proud of its men who live and work in the realm of the tomorrows—for whatever tomorrow's demands for fuel may be, our engineers have the answer—today!

SUN OIL COMPANY, PHILADELPHIA



EVERYTHING SUNOCO DOES HAS VICTORY AS ITS PURPOSE

The Seven League 7th

(Continued from page 72)

In the Marianas 7th AAF fighters for the first time were able to give support to attacking ground troops on Saipan, Tinian and Guam. Here, in contrast to the tremendous distances flown by the heavy bombers of the Seventh, the 7th AAF Thunderbolts flew some of the shortest missions of the war, taking as little as 18 minutes from take-off to landing when called upon to bomb out a gun position or strafe a concentration of Jap troops. In little more than a month, Thunderbolts flew 3,500 sorties.

Another example of why we are decisively beating the Japs is the skill and ingenuity of our aviation engineers. Landing while the fighting was still at its peak in both the Marshalls and the Marianas invasions, the 7th AAF aviation engineers made over everything from captured airports to lighting systems—using confiscated enemy materials in many instances.

Jap engineers usually take eight months to a year to lay a runway. One 7th AAF battalion hacked out a workable strip in four days from the smoking debris of Jap installations.

In spite of the terrific handicap of miles, of tiny and obscured targets and the sudden tropical storms that give this theater the most unpredictable of flying weather, the 7th AAF has established an amazing record.

From November through July 7th, AAF planes downed 138 enemy aircraft and scored 253 enemy probables, credited against the loss of 63 planes. Losses from all causes through the Gilberts and Marshalls campaigns and in the Carolines bombing missions from November to April were just 2.32 per cent, based on the number of sorties flown. Only 1.65 per cent were due to enemy action.

Not a single fighter was lost to enemy interception. As to accuracy, in the Marshalls campaign 80 to 92 per cent of all bombs, depending on the type of plane involved, hit the targets at which they were aimed.

With bases for its seven league boots, the 7th AAF has moved its fighters as well as its bombers out more than 3,500 miles across the Pacific in less than a year. It is the beginning of the route to Tokyo, and our bombers have some registered air mail bombs for a certain Son of Heaven. That mail will go through.

ComAir Forward

(Continued from page 73)

Marshalls and Gilberts to keep the by-passed islands under surveillance and control. Search and reconnaissance missions were in daily operation from the easterly most Gilberts across thousands of square miles of open ocean to the Bonins and Carolines.

The first months of the Pacific war were months of feverish activity, planning and training. The combined air power of the United States consisted of a small defensive ring around the Hawaiian Islands. The ring widened to include the Phoenix, Ellice, Gilbert and Marshall Islands, always pushing the enemy further and further from our shores, and closer and closer to his homeland. Today the combined power of our armies and navies have an offensive ring which daily is being drawn tighter.

When that ring becomes a noose, a share in the credit will be for the Navy airplane mechanic who worked shoulder to shoulder with the Army mechanic, to the Army pilot who fought wing to wing with the Marine pilot, to all the men of

all the Services who have made our combined Central Pacific Air Forces an important factor in the ultimate defeat of Japan.

The Hawaiian Sea Frontier

(Continued from page 74)

prompted by the realization that they are a part of our Nation's armed effort to defeat the Japanese.

The Navy Yard slogan, "We Keep Them Fit to Fight" has prompted Admirals Nimitz, Halsey, Spruance, and other Naval leaders, to commend the thousands of workers who have made this slogan a fact. Not only in work have these civilian employees done a splendid job—in July, 1944, they went all out in purchasing war bonds, and won further commendation by setting a shipyard record on a proportionate basis.

The task of obtaining all kinds of supplies, and having them available to meet the needs of our great Pacific Fleet, is directed by Rear Admiral John J. Gaffney (SC), USN, the District Supply Officer. Every day, as our Fleet moves further West, its every supply need is met by the vast facilities established here. The efficient supply organization of the District stands ready at any time to meet the growing needs of our Naval forces.

Naval air operations are taking a leading part in driving the Japanese further from our shores. Our Naval Air Stations, Naval Air Facilities and Naval Air Supply Depot, are District activities under the command of Rear Admiral A. M. Pride, USN, Commander Naval Air Bases, Fourteenth Naval District. Here the air-groups are given final training and preparation for going aboard the carriers. Our Naval and Marine squadrons are rehabilitated, re-outfitted and reorganized to return to the battle-front. Naval air facilities are still being expanded to meet the added needs of our growing Fleet. Our newest facility is Naval Air Station Honolulu, which will become the aerial crossroads of the Pacific in the post-war period. Here the Naval Air Transport service operates to all points in the Pacific, transporting mail to our fighting men, urgently needed supplies to distant ships and stations, and hastening the transportation of our wounded heroes from the battle-line to the security of our superbly equipped hospitals.

The Medical facilities are under the direction of Rear Admiral Lucius P. Johnson (MC), USN, District Medical Officer. They have been expanded to meet growing needs and to provide the most modern treatments. Skilled doctors give all personnel the ablest attention possible for our Government to provide. The record of this department in caring for the wounded and sick is outstanding.

The Marine Garrison Forces of the District, under the immediate command of Brigadier General L. W. T. Waller, Jr., USMCR, maintain district defenses to insure effective security of vital shore installations in support of the Fleet. They stand ever ready to drive off a never-to-be underestimated enemy.

The Hawaiian Sea Frontier protects our shipping in this area by air and surface operations, and exercises operational command over the garrisons of the outlying islands.

To meet the demand for housing our personnel and for protection from the elements to the vast stores of supplies, great expansion has taken place under the direction of the District Public Works Officer, Captain George D. Wetsel (CEC), USN, with the able assistance of our Seabees, whose record throughout the Pacific is outstanding. They have done

things that up until the time of this war it was believed could not be done.

It is particularly fitting that the Jap's retribution should stem from Pearl Harbor, and that his inevitable defeat should be brought about by ships, guns, planes, bombs, torpedoes, and combat units staging through that great base.

Liberty Lands On Guam

(Continued from page 74)

needed supplies before jump-off time. Orders to the regimental commander were: "Attack and capture that road (pointing) and we'll bring up your breakfast." He did, and we did, and the troops resumed the attack on a full stomach. Water became a critical item around Barrigada, and the essence of orders for that operation were "capture the well or we don't drink." The well and Japanese pumping machinery were taken intact and our advance went forward on schedule.

Japanese resistance became stiffer and stiffer as we progressed northward and culminated in the area around Yigo and Mount Santa Rosa, where intelligence reports had indicated that the bulk of the remaining Japs were concentrating. The plan for the destruction of the enemy force here was a division commander's dream—since the terrain was such that the whole operation could be carried out in the sector of the 77th Division and all coordination of supporting arms turned over to it. B-24's from Saipan blasted the slopes of Mount Santa Rosa for one hour without let-up; battleships, cruisers, and destroyers lying offshore laid down a deafening barrage to protect the right flank of the division; all of the light and medium guns of the division artillery battalions added their fury; and battalions of Corps artillery joined in to give the Japs a time of the worst kind of hell before the infantry attack. The shelling and bombing was so intense that many Japs ran toward our lines to escape it—they were met by stolid infantrymen and massed tanks and were either killed or scattered in small ineffective groups. Although we lost four of our tanks, they broke through and were followed by our infantry to capture key objectives which were taken by nightfall.

Orders and maps captured from the Japanese had indicated that they had planned a murderous Banzai attack through the Yigo-Santa Rosa area on the night following the day of our advance but the speed and intensity of our attack so demoralized and dispersed them that they were unable to carry out their plans. A small Jap counterattack led by tanks was consummated that night against one of our regiments, but it was repulsed after a brief but brisk fight and was of no great consequence. The following day a message was sent to the Corps Commander that the CP of an Infantry Regiment of the 77th was near the triangulation station on Mount Santa Rosa (the key of the final resistance); that elements of this and other regiments were pushing the enemy into the sea; and that all that remained was to mop up the area.

The men of the new 77th are a credit to those of the old who fought so well in World War I. They came through their first baptism of fire convinced that the Japs are not supermen, and that a cooperative and coordinated combination of American soldiers, marines, and sailors can whip anything the Nips put up against us. The joy of a liberated people is compensation for the hardships endured and the sacrifices made by the members of the "Liberty" Division.



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Lockheed Aircraft Corporation, Burbank, California, U. S. A.

The Recapture of Guam

(Continued from page 71)

capture Piti town and Cabras Island, and to establish contact with the troops from the Southern Beaches. Meanwhile, the First Provisional Marine Brigade, overcoming strong opposition along the coast to the North, had sealed off Orote Peninsula, and prepared to attack and capture that strategic area.

With its two regiments abreast the Brigade advanced in a powerful drive coordinated with the support of artillery, tanks, naval gunfire and air forces. The enemy's defenses here were skillfully organized and consisted of strongly-fortified pillboxes flanked by riflemen and organized in depth. The position was supported by artillery, mortars, medium tanks, and was protected by land mines. The force of the attack was irresistible and once the pillboxes were knocked out and the position overrun, there was little remaining resistance. The enemy tanks proved no match for the General Sherman's and bazookas. Our lines advanced methodically, taking the Marine Barracks, Sumay town, and the Japanese-built Orote Airfield, and as enemy resistance collapsed the Marines reached the far cliff-end of the peninsula. While this attack was progressing the 77th Army Division had seized Mt. Tenjo and the Third Marine Division had seized the crests of Mt. Chachao.

While Orote Peninsula was being mopped-up, reconnaissance revealed, surprisingly, that the lower bulge of Guam held no enemy concentrations of any size. An immediate decision was reached to capitalize on this information. The plan was for the 77th Army Division, and if necessary, part or all of the First Provisional Marine Brigade, to be deployed on a line with the Third Marine Division, all units pressing north in a sweeping formation.

The 77th Division moved rapidly across the island into line on the right of the Third Division and the attack was launched without delay. Agaña town fell, with little opposition, and the sweep northward gathered momentum. The Brigade, following a brief rest in Force reserve, was rushed up to take advantage of the situation as the enemy fell back. With the First Provisional Marine Brigade on the left, Third Marine Division in the center, and the 77th Infantry Division on the right—the final phase of the Guam operation was under way.

The lines advanced rapidly, often at the rate of two or three miles a day in spite of the enemy resistance and the inadequate supply roads to the front. As the troops pushed ahead thousands of Chamorros, natives of Guam, poured through the lines. (More than 22,000 of these American nationals were liberated in the operation.) Attempts of the enemy to reorganize and establish a defensive position in the Tiyán Airfield-Mt. Barrigada area, were defeated by the speed of advance of our forces and the overwhelming effect of our supporting artillery. One futile stand was made at Mt. Santa Rosa, but a blanket of artillery fire and the attack of the 77th Division crushed this last spark of organized resistance.

Outmaneuvered, the enemy resorted to scattered pockets of resistance and the inevitable Japanese collapse became a matter of days. Our line surged ahead to find little organized resistance in its path. Twenty days after our troops stepped ashore on Guam all that remained of the enemy force were small, scattered groups of disorganized troops. They lay in caves, hid in the bush, or went wander-

ing across the hills to be hunted down by our "mopping-up" units.

In the 20 days of action the troops of the Third Amphibious Corps had killed almost 12,000 counted Japanese. Later discoveries brought this count to over 16,000 with an estimated additional 2500 more sealed in caves or pillboxes or hastily buried by the enemy during his retreat. After two years and eight months, Guam once again was an American base.

The Pacific Ocean Areas

(Continued from page 64)

what feared, and little known Japanese naval base in the Carolines. Would the Pacific pattern again be applied? The answer is already a part of recorded Pacific history. Truk was pounded, kicked, beaten down, and finally left to lick its own wounds in the midst of its own wreckage. In this operation, the pattern called for destruction from the sky and sea, and the foot soldier was spared the task of coming to grips with his enemy. The 7th AAF, together with the Pacific Fleet, took care of Truk.

Land operations again got under way in July. At Saipan, the 27th Division went in with Marines to wrest this important Marianas base from the Japanese. Fighting nearly 9,000 air miles from Broadway, this New York division gave a good account of itself, and Saipan was added to the growing list of American victories, and to the list, equally long, of Japanese defeats.

The Army's 77th Infantry Division came into the news for the first time in World War II, by taking part in the capture and re-occupation of Guam later in July of this year. This followed closely the invasion of Saipan, and provides the United States with suitable bases within easy striking range of Tokyo.

On 14 September it was announced that landings had been made by American forces in the Palau islands situated in the western Carolines. Here, units of the 81st Infantry Division saw action for the first time in the Pacific.

As the Pacific Ocean war is under the over-all responsibility of the Navy, it would appear as if Army participations were negligible. Such is far from the truth. In all of the operations mentioned above, the Army, in addition to the combat troops employed, has furnished a large part of the logistical support for the Marines, and for some Naval units ashore. Food, shelter, hospitalization, signal communications, chemical warfare supplies, port companies, Engineer construction battalions, and a host of other units have all gone to make the battle a success.

More than 165,000 men have completed the highly specialized courses of practical instruction taught at the Unit Jungle Training Center. This is a mass production school designed to teach our men actual living and fighting conditions as they face them in the jungles of Pacific islands.

Amphibious training areas, comprising vast stretches of Hawaii's coral beaches, afford realistic training in a vital part of the Pacific pattern.

In the Pacific war no soldier can consider himself at the peak of his efficiency until he is able to swim. Less than two years ago, a survey among men coming into the Central Pacific revealed the startling fact that approximately 30% were unable to swim. No officer or enlisted man goes into combat in this command until he can pass a minimum qualification test by swimming at least fifty yards. Swimming is considered an essen-

tial part of the training program.

There have been set forth here, only those facts which pertain to the three-fold functions of the Pacific Ocean Areas command stated in the opening paragraph. The Pacific pattern requires not only the closest coordination with other branches of the Armed Forces, but it demands a harmonious working relationship with the civilian population as well, if the road to Tokyo is to be shortened. This time we hope that the Peace which follows Victory will be a lasting one.

South Pacific Review

(Continued from page 75)

been found possible to reduce forces on some islands, now that the threat to them has been removed or neutralized.

Personnel no longer needed has been made available in large numbers, for re-assignment. The personnel needs of Fleet units temporarily basing in the South Pacific have been filled. The ready pool of manpower has cut delays to a minimum, conserved personnel, transportation space and has shortened the time spent in a transient status.

Combatant vessels clearing South Pacific bases for offensive operations not only have full complements when they leave, but, as the result of the untiring efforts of South Pacific agencies are in every other respect ready for any action or emergency which might arise.

The task of fleet maintenance divides itself quite naturally into two categories. There is first the task of routine maintenance. In the South Pacific Area not only must the Navy's own ships be maintained and repaired but merchant vessels also look to the Navy for similar work. The efficiency of those charged with this job is best demonstrated by the prompt fashion in which they have completed every task assigned.

The second category in repair and overhaul is meeting the emergency—righting battle damage to the fleet and repairing damage inflicted upon merchant shipping.

Starting from nothing more than rank jungle, virgin forests and coconut groved shores, the South Pacific Force has developed facilities where work of nearly any description can be undertaken and completed expeditiously.

The South Pacific Force has taken pride in the manner in which, through teamwork, it has been able to fulfill any and all requirements of forces afloat while preparing for combat. Large stocks of parts are maintained at strategic locations. These include parts for major fleet units' heaviest machinery; ordnance materiel of all descriptions; communications equipment for all classes of vessels; parts for landing craft, motor torpedo boats and other small craft; in short, almost anything that might be called for is on hand. Those items which are not stocked are procured expeditiously, frequently by air freight.

Facilities have been established for rendering all possible service to carrier and land-based aircraft. Aviation supplies of all descriptions and classes are stocked and are ready when needed.

To achieve this high state of development in the once almost untraveled and sparsely inhabited South Pacific has required cooperation of a high order on the part of all Services. The entire history of the South Pacific Area and Force has been one of teamwork with Army, Navy, Marine and Allied forces working together towards one common goal. The credit for what has been accomplished should be shared by all branches of all the cooperating services.

THANKS-

to each and every one of you!



All of us on the Santa Fe want to express our thanks to every one of you, from buck private to general . . . from ordinary seaman to top-ranking admiral.

We are deeply grateful and have sincere appreciation for the heroic services of our fighting forces. You have made possible a safeguard for all of us on the homefront to accomplish our record breaking jobs.

Our job has been easier too, thanks to your patient consideration of crowded travel conditions you have had to meet.

Santa Fe carried a lot of passengers in 1944, more than during any other year in our history.

This great wartime load has been carried with the same number of cars of peacetime days. Building new passenger equipment has not been permitted since Pearl Harbor (the steel needed for this purpose has been used to make guns, tanks and battleships). In fact, we have fewer passenger cars than during World War I.

In addition to record-breaking passenger traffic, Santa Fe has been rolling history-making loads of vital wartime freight.

Your courage and fighting skill have been, and will continue to be, an inspiration for all of us to work harder on the Santa Fe to "keep 'em rolling for victory!"

SANTA FE SYSTEM LINES

"ALONG THE ROUTE TO TOKYO"



Battlefronts of the Pacific

(Continued from page 67)

ing actions in the Solomon campaign.

Thus it was that our enemy was denied the Southern Solomons as a base from which to project offensive action against the New Hebrides, Fiji, and New Caledonia; and, conversely, our own forces were provided with such a base for offensive action northwestward through the Solomons. The by-passing of Kolombangara in the New Georgia campaign and of the Buin Faist-Shortland area in Bougainville set a pattern which has subsequently been so successfully followed in the South Pacific and other areas. Thus was initiated the hop-skip-and-jump tactics which, combined with comparable drives in the Central and Southwest Pacific, have to date by-passed some 20 Japanese divisions.

In the Pacific war, Guadalcanal is an outstanding historic landmark. There United States marines, soldiers, and sailors fought side by side. Army, Navy, Marine and New Zealand air crews took off from the same fields and bombed the same targets under the protection of Fighters of all Services and both nations. American, Australian and New Zealand vessels fought valiantly, and in the end successfully, the best surface forces the Nip could bring to bear. The fusion of these combat forces into a winning team is the story of victory in the Solomons.

Upon completion of the Guadalcanal campaign, there were provided the means and a base for mounting a series of combined operations that resulted in the rapid occupation of the Solomons, the Air neutralization of Rabaul and Kavieng, and the eventual by-passing of the Eastern Bismarks by the seizure of Emirau. With the later occupation of the Gilbert and Marshall Islands in the Central Pacific, the enemy's strategic outer defense line was successfully cracked.

The organization of the Army Air Forces, Pacific Ocean Areas, and my assumption to command thereof was announced on 31 August 1944. This not only brought about a radical change in the locale of my activities, but reflected a similar change in the nature of my command—the new assignment being purely an Air job. This terminated two interesting and instructive years for an Air Force officer who found himself in the unique position of exercising command of large Army forces in an active theater.

Though the ending of the campaigns in Europe will inevitably contribute to speeding up the pace of our war against the Japs, we cannot count on a quick decision in the Pacific. The Jap ground forces are fanatical bitter-enders, heavily armed and more dangerous as they become more desperate. Despite our best efforts to take them prisoner, literally thousands of fighting Jap holdouts have been killed in the Marianas since Guam, Tinian, and Saipan have been secured.

The odds against Japan are mounting daily but Japan is not standing still. Japan's production capacity has not yet felt the power of the Allied air effort. As this is written it is virtually unimpaired and its capacity is somewhat of an enigma.

Our heavy bombers in the Central Pacific have never had fighter cover on missions flown against the Japs. They have had to get their bombs on installations which were located on islands which in their entirety were themselves smaller than the war industry factory areas of

many German cities. This outstanding pin-point bombing by the Seventh Air Force, without Fighter protection, when frequently outnumbered over the target as much as four or five to one, is one of the great and unwritten chapters in the spectacular history of our heavy bomber operations. We did not attack unprotected from choice—the Jap targets were too far for Fighter cover. There was a job to do and it was done. It is still being done.

In the conduct of search missions and in strikes against objectives within their range, our Navy, Army and Marine Medium Bombers, Light Bombers and Fighters have turned in a splendid performance. The action of Carrier forces in the Central and Western Pacific against Japanese air and naval forces and surface objectives had been aggressive and successful in a thoroughly noteworthy degree. The power of this force is constantly increasing and will contribute in large measure to the early termination of the war.

With the acquisition of bases close enough to Japan to permit the effective employment of our large Bomber forces, the intensive land-based Bomber campaign against the factories and other installations of the Nips' homeland will be initiated. He will then be subjected to Bombardment attacks similar to those that have been visited upon Germany, and these attacks will be continuous and of ever-growing intensity. We may then begin to find out whether or not he can take it. As bases closer to his hearth fires are acquired and the mass of Bombardment effort is increased through the availability of land masses permitting disposition of our forces, the tempo of our operations will be again stepped up until, if it should be still necessary, our operations will be conducted on a scale comparable to that employed against Germany.

Pacific Amphibious

(Continued from page 70)

eliminated the strong Japanese garrisons and air bases there and gave us base facilities within 1,500 miles of the heart of Japan, besides cutting an important enemy line of communications to the south.

On 15 September 1944, the III Amphibious Corps composed of the 1st Marine Division, 81st Infantry Division, U. S. Army, and supporting troops launched the attack against the Palau Islands in the western Carolines which resulted in the seizure of the islands of Peleliu and Anguar. Again the fighting was fierce against well constructed emplacements over most difficult terrain.

Seizure of the above objectives has not only extended our control over the Pacific to the Philippines and close to the Japanese homeland but has made virtual prisoners of many thousands of Japanese troops on isolated island bases.

The remarkable success of the Central Pacific campaign is directly attributable to the close coordination and cooperation of the participating services, Navy surface and air, Army ground and air, and Marine Corps ground and air. All have worked together as a hard hitting team which has completely outclassed the enemy on every occasion.

From the view-point of the ground forces the fighting has been hard. The Jap is a tricky and tenacious foe fighting from well selected and prepared positions with good equipment. The courage and determination of our fighting men, Army, Navy and Marine, in the Amphibious

Forces has overcome tremendous obstacles in extending our control of the Pacific to the westward. As we approach the inner defenses of the Japanese Empire we may expect even harder fighting until Japan is utterly and completely defeated.

From Tarawa to Tinian

(Continued from page 66)

culties as well, by increasing the distance over which all food and supplies for all our fighting forces must be transported.

Amphibious operations conducted in such far distant areas are extremely involved not only because of the tremendous distance from the home bases but also because of the great number and types of ships, aircraft and personnel involved. In these operations forces of the U. S. Navy, the Marine Corps, the Coast Guard, Public Health Service and the Coast and Geodetic Survey have all been involved. They have had to operate together, as a single team, and under a single command. The cooperation and efficiency of these several units have been of the highest order throughout the Central Pacific campaign, and the successful outcome has only been made possible by the perfect teamwork of all.

The Antilles Department

(Continued from page 63)

Force and the Coast Artillery Command which guard the Department's 7,500 miles of perimeter and nearly 2,000,000 square miles of land and water. Included within these boundaries are such strategic installations as the oil refineries of the Dutch West Indies and the bauxite mines of the Guianas.

Another important arm of the Department is the Air Command which operates mechanical and communication services for Air Transport Command planes enroute to the war fronts. When the anti-submarine campaign in the Caribbean entered its final stages, the Navy air wing assumed responsibility for completing the rout of the U-boats. Formerly the Air Command played a major role in ridding the Caribbean of the submarine menace.

The Signal Corps this year has completed an inter-island radio network linking the far-flung bases of the Caribbean extending from the northern tip of Cuba to the Guianas on the South American continent. Construction of a cable system throughout Puerto Rico has freed the Army from reliance on commercial communications.

The Department is cooperating with the Air Corps and the University of Puerto Rico in training weather officers at the Institute of Tropical Meteorology for duty in the tropics of the Pacific. The Institute is the only one of its kind devoted to the study of weather in the tropics.

Medical Department research men have had considerable success in the control of disease prevalent in warm climates. Remarkable reductions in the incidence of malaria and other tropical diseases among Army personnel have resulted from rigid application of existing preventive and control measures. The Department Medical Laboratory is doing important research work in the field of parasitic organisms.

Above all, Antilles Department military installations remain alert while the Department functions as administrative headquarters for the Caribbean Coastal Frontier.

FROM AN OFFICIAL U. S. ARMY
REPORT—ON THE AAF.

Section IV— THE MEN

"Heroes or not, our men have done heroic things. Privates, sergeants, generals, have put their lives on the line—not without regard to the consequences as some like to think—but knowing full well what the odds were. It is they who are fighting this war."

Those men, and their comrades in all branches of the services, will, before long, win their victory for themselves—and our victory for us. To them we owe a debt which

neither words nor even actions can repay. It is, however, part of our bounden duty toward those men to help provide jobs at which they may work to support themselves and their families in the fashion for which they have fought.

Reproduced here is the first of a series of three advertisements recently published by our affiliate, the Esso Marketers, indicating their thinking and actions in relation to problems of post-war jobs.

He's still Our G.I. Joe

1ST

in a series of ads on
post-war opportunities

The question of post-war jobs—especially for returning veterans—is a big one and a live one. It will get more so as the war comes nearer its end.

Our own job security plan for Esso Marketers' employees now in uniform went into operation the day after Pearl Harbor. It has worked so well for so long that we want to pass our experience along.

In general, it is based on the idea that we are saving his place for our fighting man while he's away, whether he volunteered, was drafted, or was called up as a reservist. Chief features of the plan are these...

1. Each employee who has been with us a year or longer is given two months' salary as he enters the armed forces.

2. His dependents receive monthly payments from the company while he is away—up to half of his former company pay.

3. Each employee has been assured by letter from our company president that his old job—or another as good or better—will be waiting for him. Experience gained in the Armed Forces may result in his immediate advancement.

4. His rights in company retirement and benefit plans are protected while he is away.

*DETAILS of the plan have been put into a booklet which we shall be glad to send you.**

Soon we will announce in this newspaper further plans for making some good new jobs in the oil business after the war.

As we see it today, next to winning the war itself, nothing is more important than the matter of post-war jobs.



STANDARD OIL COMPANY OF NEW JERSEY

STANDARD OIL
DEVELOPMENT COMPANY
BAYWAY, NEW JERSEY
OPERATING THE
Esso
RESEARCH LABORATORIES

Air Force Atlantic Fleet

(Continued from page 53)

organization has commissioned, equipped, and trained squadron after squadron of Mariners for duty in the Pacific. Beginning with the assembly of pilots, aircrewman, and administrative personnel from many sources, and airplanes direct from the factory, the components have been forged into fighting "big boat" squadrons, which have gone forth to the far reaches of the Pacific to seek the enemy in his lair and play their no little part in harassing and defeating him.

The aviation end of the Battle of the Atlantic is upheld by the aircraft of the Fleet Air Wings and Fleet Airship Wings operating from shore bases and by carrier aircraft based on the escort carriers operating throughout the broad expanse of the Atlantic.

Fleet Air Wings are made up of squadrons of various types of aircraft based along the coastal areas of North and South America, Africa, and England, practically encircling the Atlantic.

Fleet Airship Wings comprise squadrons of lighter-than-aircraft or blimps as they are commonly called. They are organized like Fleet Air Wings and add to the security of our shipping in coastal waters.

The CVE's or escort carriers, sometimes referred to as "baby flattops," operate with their accompanying destroyer escorts as Task Groups in Atlantic areas normally beyond the range of shore-based aircraft.

The Anti-Submarine Development Detachment is an activity under ComAirLant. Its general mission is to develop—through experimentation and test—new weapons, tactics and equipment for use in the Battle of the Atlantic. It also develops training methods to insure that such new weapons and methods are properly and most effectively employed in action.

The Atlantic Fleet Weather Central, based at the Naval Air Station, Norfolk, Virginia, and under the administration and general supervision of ComAirLant, is not normally a weather broadcasting station. It is designed to provide a better weather service for the Atlantic Fleet and all naval units requiring weather information in the Atlantic and along the Atlantic Coast.

To assist in keeping the far spread aviation units furnished with critical material and supplies, many aircraft tenders are kept shuttling up and down and across the Atlantic.

Proper distribution of strategic material among operating bases has always demanded careful planning. In order to provide an overall supervision of this material and to insure that the material available is properly pro-rated, AirLant was given this control. As a consequence, AirLant's activities in certain material supply matters extends beyond the Air Force, Atlantic Fleet and includes the Marine Corps Wings and the Naval Air Transport Squadrons and Coast Guard air units on the East Coast. As a corollary to this control of material, AirLant assigns priority of work for the assembly and repair of planes at Atlantic Coast Naval Air Stations.

One great problem that had to be solved as the war continued was the rehabilitation of personnel in especially active or God-forsaken areas. To provide for this, a policy was established whereby combat air crews and individuals were returned to the United States after a specified time or number of missions.

In addition to the problems connected with rehabilitation, the entire aviation

personnel situation in the Atlantic, including all the air bases that are not in the continental United States, is the responsibility of AirLant. This includes maintenance of complements, transfers and movements of personnel. The large number of officers and men involved requires a sizeable AirLant organization for this purpose alone.

Those of AirLant who fly and those who keep the aircraft fit to fly, and the vast many who do the limitless jobs in order that aircraft may be kept flying, all these have done a magnificent job.

To all the officers and men of AirLant, I extend my congratulations for doing a tough job with a fine spirit and with results for the Country of almost unmeasurable importance. This may sound like fatherly pride, but I know.

Forces in the Middle East

(Continued from page 57)

ican contract was terminated and the Air Transport Command took over.

As a separate organization, with Headquarters in Washington, ATC is responsible for the transportation of personnel and material over certain established routes. Supporting the Air Transport Command is an important function of USAFIME. ATC operations in USAFIME include the Central African Division's route from Accra to Karachi and the portion of the North African Flight Division of the Casablanca-Cairo-Karachi route lying within USAFIME and extending, at the moment, from Tripoli to the Persian Gulf Command, including the Khartoum-Cairo run.

USAFIME is responsible for the construction of new air bases, and for supplying all technical services which may be required by ATC, such as Quartermaster, Signal Corps, and Engineers. In addition, a major portion of the coordination between ATC and British RAF headquarters has been effected by USAFIME.

To meet the requirements of the Air Transport Command an American air base was constructed within a short distance from USAFIME headquarters by the Engineering and Construction Division of USAFIME. ATC operations were begun from this field in October, 1943. Today, it is the largest ATC airport in Africa, and one of the largest in the world.

At present in the midst of another vital function—that of effecting the evacuation of Allied airmen forced down over the Balkans and repatriating them to their former commands—USAFIME is again at the ringside. Recently, hundreds of airmen were freed from imprisonment in the Balkans and flown back to Allied territory for rehabilitation. They were clothed, given much needed medical aid, their first good meal, cigarettes and hot baths, and once again made to feel like men. USAFIME's complete resources are behind the return of interned Allied prisoners-of-war immediately upon the liberation of each Balkan country.

The United States Army Forces in the Middle East stand ready, eagerly awaiting the impending Nazi doom in Europe. For theirs will be the gigantic job of reshuffling millions of men, material and supplies. Through USAFIME's vast supply network, guns, ammunition, tanks, trucks, food and countless other wartime necessities must be scooped from Europe and deposited, as by a huge crane, into the midst of Southwest Pacific action.

In effect, this huge theater of communications will become an enormous overseas embarkation port, funneling

necessary implements of war to the Far East. Situated as it is between two wars, ships, planes, railroad-equipment, trucks, will pass through the portals of the Middle East, headed for the steaming jungles of Burma, the mountains of the Philippines, and the hills and plains of China.

The South Atlantic Campaign

(Continued from page 56)

curated, they have been small. During the darker days of the war vital materials passed through our area—materials that contributed essentially to the defense of Egypt, India and Australia. We have materially aided Brazil in building a military force to be reckoned with, and above all, we have made friends. No event has occurred to mar our alliance with the British based on West Africa, and the Caribbean Sea Frontier Command to the north of us has afforded us every assistance possible.

Advances In Aircraft Design

(Continued from page 60)

and rockets underneath their wings; the Liberators, long range search planes which patrol the battle zones; the Dauntless dive bombers, now discontinued but ranked as one of the most famous planes of this war; the Venturas, fast hit-and-run raiders; the Coronados, the Mariners, the Kingfishers and the other famous craft which have brought victory nearer.

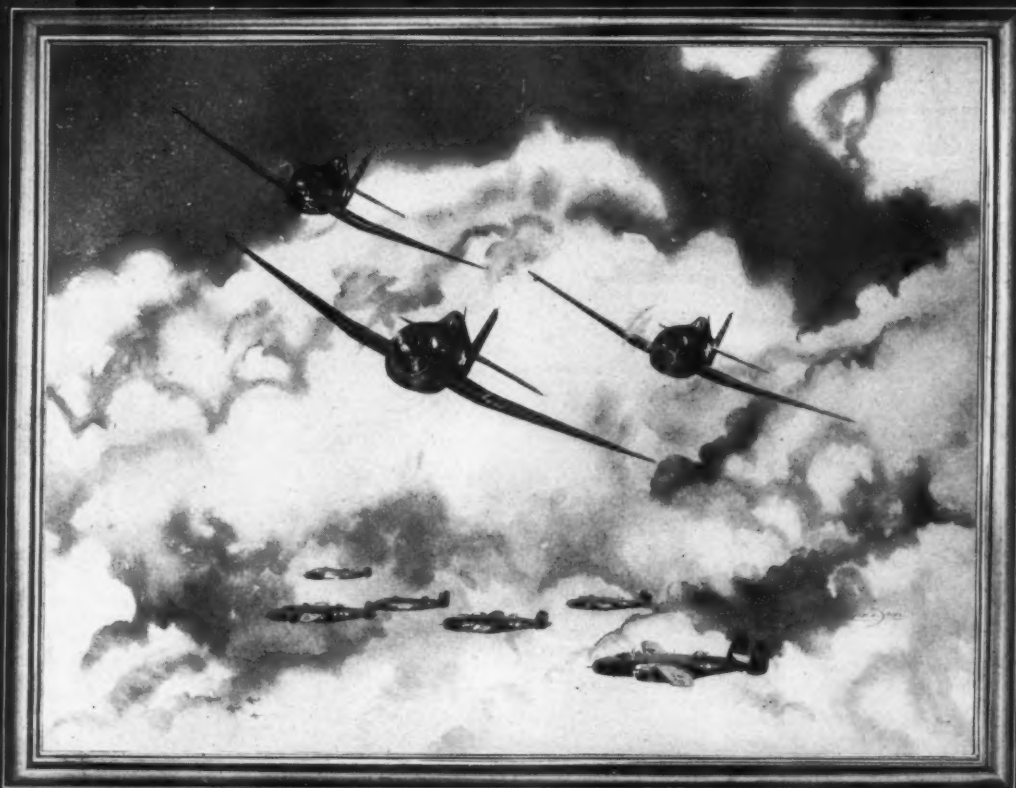
The Helldivers, which are replacing the Dauntless dive bombers in our carrier forces, pack an aerial "Sunday punch" for the Navy. Not only do they carry a bomb load large enough to sink or immobilize a large warship, but they possess sufficient offensive firepower to slash an opening in defensive fighter screens. They can be used not only for conventional dive bombing but also for launching torpedoes, for anti-submarine patrol and for dropping parachute mines.

In an attack on Rabaul, New Britain, last fall, a single squadron of Helldivers sank two Jap warships and probably three more. But their day's work wasn't finished. To get home they had to battle through a screen of 80 of the enemy's topnotch fighters. They got through without losing a plane, and shot down three of the enemy.

Also finding growing employment in the Pacific is the latest modification of the Lockheed Ventura, a plane which descended from a long and distinguished line of transport craft. These twin-engined medium bombers can outrun a Zero at low altitude and have overtaken and made fixed gun runs on Jap four-engined flying boats attempting to escape them. The Ventura can flash undetected from behind an island or out of a cloud, drop its bombs, take reconnaissance photographs, and dart to safety before enemy fighters can be brought to the attack.

It can be told that the Navy has specially trained squadrons now to do its night fighting. The night fighters, the air-sea rescue squadrons, and the search and patrol squadrons all now have, or soon will have, planes designed exclusively for the special missions they perform.

Joining the Pacific air forces now, or soon to make their appearance in the various theaters of war where the Navy is fighting, are new combat craft which will make the great planes that swung the tide of war against the Japanese almost as obsolete as a World War I Jenny. All that can be said about them now is that they are faster, more heavily armed, safer for our pilots, and will materially hasten the day of victory.



U. S. Navy's Grumman Hellcats—Escorts of the Sky

Grumman

AIRCRAFT ENGINEERING CORPORATION, Bethpage, L. I., N. Y.

The Number One Job

(Continued from page 15)

are missing."

The facts behind that terse message are these: The attacks were successful, and great damage to German war industry was done. Most of our forces met no fighter opposition in the air, but were faced by the massed fire of antiaircraft defenses. One group had heavy going and took most of the losses. But that group, true to the high tradition of the Eighth Air Force—never to turn back from the target because of enemy opposition—went through and delivered the attack. And 21 of our heavy bombers were lost.

The war is not over for those who got back from that trip to Germany. The same attacks will be made tomorrow and tomorrow, until the job is done.

When we study the situation in the Pacific, it is beyond question that there will be no early finish of the fight against Japan. There our hardest fighting, land, sea and air, is still ahead of us. And we must overcome heavy handicaps of distance and terrain before we can close in for the finish fight.

Our fighting men have made great progress in the Pacific. For the past two years we have maintained the offensive and have rolled back the Japanese surge, everywhere save in China, with increasing speed.

Our landings at Leyte stand out as one of the great military achievements of the war. They are a striking tribute not only to our Army and Navy, but also to the productive effort of our people at home. The carrying out of an invasion in the Pacific on so large a scale, 7,000 miles from our West Coast, at the very time that our supply requirements in Europe are reaching their peak, is proof of the strides we have made in our ability to wage war since Pearl Harbor.

Still, Leyte is 2,000 miles from Tokyo. And the fact remains that we have not yet met the main Japanese strength. Japan has an army of 4,000,000 and is in process of calling up another million in the 17 and 18 year age group. Her resources in manpower of military age, due to her high birth rate, are equal to our own. That Japanese army will be destroyed, but it will be destroyed only by a three-way attack—land, sea and air—in the greatest strength that we can deliver.

The war is by no means over for our brave soldiers and sailors. It does them no good in their bitter struggle to hear from home that the war is as good as won and that other affairs, of business or of pleasure, are engaging our attention. They still have urgent need of the uninterrupted war production of this mighty industrial nation, and they will not be sure to get it if we allow our attention to be diverted from the first and foremost job of giving them the tools they must have. It does them no good for people at home to indulge in carping criticism of nations allied to us, nations whose fighting men are partners with ours in the war against our common foes.

At the commencement of this war the people of the United States pledged our entire resources to the waging of war. That was a heavy pledge. On it we have built the most powerful fighting force the world has ever seen, a fighting force that is on its way to final victory. I have full confidence that we will continue to keep good that pledge until our men are brought home, home to a country that will never forget their patriotism, their heroism and their sacrifice.

1944—A Golden Year

(Continued from page 14)

fied command which is absolutely essential to success. The Bureau of Ships has produced a great number of highly specialized landing craft. We have developed fire support against shore defenses to a fine point. The operations of our air forces have been integrated with that of our surface vessels so that they fight as a team, with the forces aloft providing interference. Our fast carrier task forces are able to range thousands of miles from their bases, stay at sea for several months, and during that time maintain air control over large areas of land which are in the hands of the enemy. For instance, in March of this year, Admiral Mitscher's fast carrier forces staged a vicious and destructive raid on Palau some 2100 nautical miles west of our most advance base in the Marshall Islands. And recently his fast carriers have been conducting almost daily strikes against Jap airfields and installations from Formosa to the southernmost Philippines—and fighting a major naval engagement in between times.

All of this adds up to mean that sea power is more powerful today than at any time in past history. Defensively it means the United States, less than ever, can consider the oceans which surround it as protective barriers against attack. Offensively, it means that we have developed the most tremendous striking force the world has ever known. In the hands of ourselves and our Allies, lies unprecedented power.

Today we are all aware of the value of this power—how important it is for the preservation of our nation and the future preservation of the peace of the world. We have had these lessons very forcibly brought home to us. We must resolve that we shall not forget them when the immediate crisis has passed. There have been other wars in which we have learned the value of sea power. Each has been succeeded by a period of peace. Each time we have been lulled into a false sense of security which has made us forget the lessons we have learned. Each time the new crisis which inevitably followed has been greater and more difficult because technological progress is constantly developing more powerful weapons of aggression.

We may never be given another chance. This time we must not forget. This time we must remember that upon the trident of sea power rests the future welfare of the American people.

Newfoundland

(Continued from page 62)

Canada matched the United States defense preparations in Newfoundland, establishing a naval base and ground installations. Thousands of American and Canadian soldiers and sailors thronged the small Newfoundland towns, and fishing villages called outposts. Numerous chances for friction between commanders and personnel were obviated by the friendliness, tact and mutual forbearance of all Allied officers concerned, including Vice-Admiral Sir Humphrey Thomas Walwyn, KCMG, KCSI, CB, DSO, RN, Governor of Newfoundland.

Britain stood fast in 1940 and 1941. The threatened invasion of America by Axis forces using captured British and French ships and aircraft remained a chimera. But German submarine operations off Newfoundland were no myth. The tactical mission of the forces on the island became protection for convoys, and for the enormously increasing numbers

of military aircraft which passed through this area en route to eastern destinations.

Construction and maintenance of fortifications, communications and military roads has absorbed the energies of Engineers, Anti-Aircraft, Coast Artillery, Signal and other personnel. The rugged climate and terrain of Newfoundland has aided the training of troops to withstand the rigors of modern warfare.

Personnel have responded to this rigorous training by maintaining the highest standards of uniform, discipline, cleanliness and morale.

During my 22 months of service here it has been my ambition to train men to go forward to other assignments stronger in soldierly qualities and technical knowledge, as well as in minds and bodies. Personnel in Newfoundland, though disappointed by lack of combat, have responded to this severe training and duty program in a way that reflects great credit on themselves, and on the armed forces of the United States.

The Isthmian Approaches

(Continued from page 62)

In preventing this, we are prepared to fight fire with fire. Our first reliance is on the long-range bomber. The core of our defense is a powerful ring of fighter squadrons.

Air power here, represented by well-trained combat units, will discourage the enemy from attempts to damage the Canal.

If that discouragement is complete—if our enemies are convinced that they cannot damage the Canal without tremendous cost to themselves—they will not attempt it.

If they do not attempt it, then our contribution to the defense will have helped provide the desired 100 per cent security.

If they do attempt it, we aim to destroy the hostile carrier before it can launch its aircraft. We hope to get all of the eggs while they are still in the basket.

Our reconnaissance, designed to ferret out the enemy, employs every known device to detect and locate any approaching target.

Should any airborne unit or aircraft slip through the outermost screen of defense, it will be dealt with summarily by our fighter squadrons.

Either way, the Sixth Air Force provides its share of well-justified insurance against damage.

The system is good. The job is tough. It means twenty-four hours alert every day of the year.

We stand and wait—but not idly.

Many pilots and combat crews from the Sixth Air Force in Panama have gone into action during the past year in other theaters of war.

We expect that a Brazilian fighter squadron, trained here earlier this year, will give an excellent account of itself in action.

Aviation mechanics, armament crews and radio operators have been schooled for the Air Forces of Bolivia, Brazil, Chile, Colombia, Ecuador, Nicaragua and Peru.

The Sixth Air Force also continued the policy of co-ordinating its activities with those of the United States Navy in the searching out and destruction of enemy submarines operating along the approaches to the Canal.

The task of keeping all outlying echelons supplied was handled commendably by the Sixth Air Force Service Command, Panama Air Depot, employing the services of the Troop Carrier Squadron.



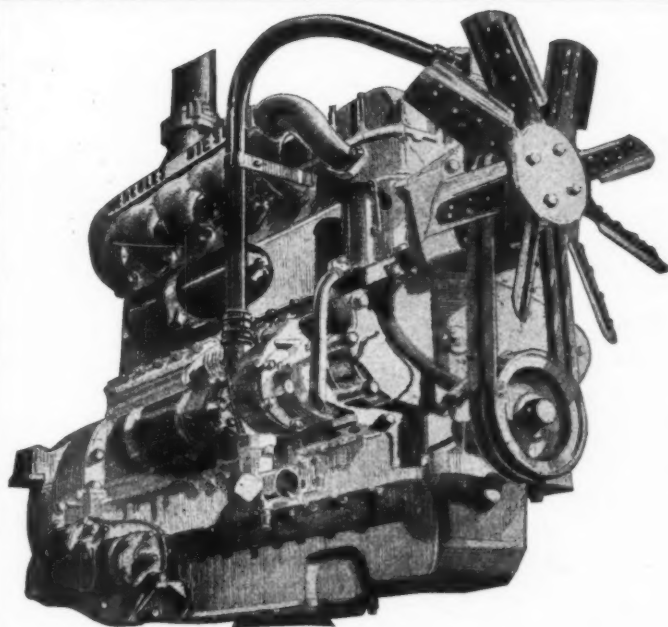
**HE knows...
do you...**

THAT—American steamship companies are conducting the greatest water transport operations in history.

THAT—without such operations the military successes of our Armed Forces would be impossible.

GRACE LINE

10 HANOVER SQUARE OR ROCKEFELLER CENTER, NEW YORK; WASHINGTON, D. C.; PITTSBURGH; CHICAGO; DETROIT; NEW ORLEANS; HOUSTON, TEXAS; SAN FRANCISCO; LOS ANGELES; SEATTLE; PORTLAND, ORE.



WE have pledged the fullest possible cooperation, and our every facility---moral, physical and financial---to meet the needs of our Nation and its Allies in the prosecution of the war.

HERCULES MOTORS CORPORATION
CANTON, OHIO, U. S. A.

Our Underground Allies

(Continued from page 45)

and rather unadaptable invader.

Despite these variations from country to country, the underground had four general purposes which were constant throughout all countries. To appraise its work, it is necessary to appreciate these broader outlines. The underground is so surrounded with secrecy and so appealing to the sense of romance and heroism that it is easy indeed to get its picture out of focus and see only the more brilliant high-lights. The underground, however, had grim and vital military purposes; each and every individual sacrifice and exploit added its tiny molecule towards the sum total of history's greatest victory.

The first and greatest purpose of the underground beyond all other purposes was to keep alive the national spirit and will to liberty. That was a huge and supremely difficult task; it meant defiance of the mightiest military machine and the most merciless secret service yet known to history. It involved secret meetings, dangerous journeys, constant fear of error, discovery, even betrayal, in short, constant rendezvous with death. It takes colossal courage thus to fight alone, in the dark, in the very citadel of the enemy, with a single misstep leading to the one inevitable result, but it was essential if the nation were to be kept alive in a position to arise from the ruins once again proud and free.

The second general purpose was to discomfort the enemy in every way possible to human ingenuity. This took both psychological and material form, stirring fear and anxiety in his emotions and bringing sabotage to his war efforts. The former was effected through all the methods of opposition, disgust, and ostracism which are particularly damaging to a people with a basic inferiority complex like the Germans; the latter was effected by hiding supplies, slowing down work, damaging essential machinery, causing accidents on railroads, or even silent murders in the night.

The third and more distant purpose of the underground was active aid and assistance to the liberating forces which were preparing their invasions from the outside. Invaluable news came out of France regarding submarine campaigns, out of Norway regarding the Bismarck, the Tirpitz, and other naval matters, out of Greece and Yugo-Slavia regarding the Balkans, out of Poland and Czechoslovakia regarding the great offensives on the eastern front. Sometimes this was through the desperately dangerous method of radio communication; more often it was by the individual traveler who found his way out, in some cases with considerable regularity, as from Norway to Britain and Sweden or from Greece to Egypt. The Germans had an active enemy in their midst; eager eyes were on watch everywhere; they were infinitely more exposed to espionage than the Allied countries.

The fourth and most distant objective of the underground was to be ready to play an active military role when D-Day actually arrived and friends set foot once again in their country. This required infinite patience and organization; often a more striking and glorious appearing activity had to give way before a more humble but more destructive one. Obviously, this was the hardest and most difficult of all the four general objectives of the underground; it required immense organization, securing of supplies which were extremely difficult to obtain, and, above all, almost superhuman patience.

From the very first moment of the in-

vasion of "Fortress Europa," it began to pay off. On that fateful day of 6 June 1944, when history's greatest invasion was unleashed on the beaches of Normandy, there came to the underground of France, from the voice of the Supreme Commander, General Dwight D. Eisenhower, the words which the French Underground had awaited for four tragic years: "The hour of your liberation is approaching. All patriots, men and women, young and old, have a part to play in the final victory."

The results were brilliant. Within a week, General Eisenhower announced that the French Forces of the Interior, which had now taken formal organization, had "played its assigned role in the battle of liberation" . . . "and contributed directly to the success of the Allied operations in Normandy." As the great tide of battle moved onwards and eastwards towards Germany, the undergrounds in other countries came into the open to receive the Commander-in-Chief's warm commendation. As the Allies moved into Belgium, General Eisenhower told the Belgian resistance group that it had "performed magnificently in the execution of my orders"; with the start of the drive into the Netherlands, he paid tribute to the Dutch organization for "such magnificent results since the landings in Normandy began."

Thus the long painful metamorphosis from conquered people to determined and well-armed fighting men and women came to completion in one country after another. The various underground movements, which for years had defied a lonely death in the midst of the enemy, came out into the open daylight to play their part in the liberation of their homelands. They had demonstrated beyond question, first, that Hitler's vaunted "New Order" was a desecration of mankind's deepest instincts, and, second, that their countries were deserving of the freedom which the armed forces of the United Nations were restoring to them. Their courage and heroism will live long in history.

The Fifth Army

(Continued from page 48)

The Winter Line was breached, so were the Gustav and Hitler Lines. The Germans were routed, and sent reeling back toward Rome. Then, in May, the long-beleaguered beachhead units lashed out with a powerful striking force to break the German perimeter that had hemmed them in.

The retreat approached route proportions as Fifth Army ground forces, ably supported by the Air Force, drove a disorganized enemy toward Rome. Junction of the beachhead units and troops moving over-land from the south occurred on 25 May near Borgo Grappa in the Pontine Marshes.

The enemy plight grew daily more desperate, and after an abortive effort to delay the Fifth Army on the outskirts of Rome, the Germans fled from the city, moving swiftly northward. On 4 June 1944, Rome was liberated by the Fifth Army.

Keeping up the rapid pursuit, General Clark harried the retreating enemy. There were a number of bitter battles north of Rome. Places like Civitavecchia, Viterbo, Grosseto, Siena, Cecina, had their brief flare in the news, then other, more familiar names appeared, Leghorn, Florence, Pisa.

After one year of fighting, Fifth Army had forced the Germans out of most of Italy, captured Rome from the south, for the first time in history, and was poised

before the last enemy defensive position in the land of its one-time Axis partner.

Mediterranean Air Forces

(Continued from page 49)

achievement to date has been the destruction of Ploesti. In April this year Strategic began a concerted offensive against this major source of German petroleum. Between then and Rumania's capitulation on 22 August, Strategic dropped 12,848 tons of bombs on Ploesti refineries, reducing their output an estimated 85%. This was at all times a bitter fight—2,385 U. S. fliers were missing in action over Ploesti between April and August. The joyful sequel to the story of Ploesti was the rescue of 1,100 of these brave boys from Bucharest by our Flying Fortresses a few days after Rumania capitulated.

Ever since El Alamein the Mediterranean has been the crucible of tactical air force development. This year the Tactical Air Force, commanded by Major General John K. Cannon, flew 220,971 sorties and dropped 103,811 tons of bombs between 1 January and 1 September. Most of this effort was expended in three major tests of tactical procedure.

First was the amphibious landing at Anzio in January, where Tactical, assisted part of the while by Strategic, provided the ground forces with complete surprise in the landing and then played an indispensable role in enabling them to keep their precarious footing in the bitter fighting which followed. Thereafter Tactical devoted itself to Operation STRANGLE, an unprecedented program of cutting German supply lines in Italy to so weaken the German armies logistically that they would be unable to withstand the Allied ground attack. The success of this program, which kept all rail lines in Italy constantly cut from 24 March onwards, was immediately apparent when General Alexander's armies began their attack in early May—The German armies broke and fell back in costly retreat all the way to the Spezia-Rimini Line. The third great achievement of the Tactical Air Force in the Mediterranean was the aerial support of the invasion of Southern France which began on 15 August. Profiting from the lessons learned at Anzio and in STRANGLE, Tactical gave the Seventh Army aerial support which General Sir Henry Maitland Wilson, Supreme Allied Commander in the Mediterranean, commended as follows: "Please convey to the Air Forces under your command my appreciation of the bombing and fighter-bombing attacks . . . during the periods prior to D-Day and on D-Day itself. The Naval and Army Commanders . . . attribute largely their successes and small losses to the effect produced by the action of the Air Forces."

When 1944 began, the Allies held only the southern shore of the Mediterranean and the southern third of Italy. As of this writing, only nine months later, the Mediterranean has been almost entirely cleared of Germans. No better comment on the part airpower has played in this great achievement can be found than in the following bitter remark by a German Unteroffizier recently captured near Florence:

" . . . the war is almost over anyhow . . . what damage can it do if I tell you that the strafing is the most feared, the most hated form of combat any of us have had to face. It is not your bullets that do the damage but the fear that those attacks breed in our men. Never have I seen such complete demoralization as when your planes pop up out of the bushes . . ."



When G. I. Joe comes home again

The *first* thing he'll want is "to see the folks." The *second* is a job.

Most jobs are found in business or industry. And business and industry thrive best under the American Free Enterprise system. They *must* have freedom to grow.

Let's all do our best to make sure that Joe *will* get a job. Let's *keep* Free Enterprise!

5487



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Here's your ammunition, Joe...

It takes 10 tons of initial equipment to supply each "Invasion" soldier—and it's the merchant seamen who take it "over there"!

Sharing all the dangers of the war at sea, the American Merchant Marine goes straight to invasion beaches, to deliver food, medical supplies, guns, ammunition—all the 700,000 different articles needed to power the drive of the Liberation Armies!

Last year the United Fruit Company, under the direction of the War Shipping Administration, handled 5,000,000 tons of war cargo. Besides 35 of their own ships of the Great White Fleet, the Company operated 45 additional government-owned vessels.

THE NEXT BIG JOB... when the Great White Fleet sails back from war to the Caribbean, it will face a great opportunity. Global war has proved that the American tropics can supply many strategic commodities formerly brought from the Far East—quinine, abaca fibre (manila rope), balsa, tung oil, and many more. Shipped northward, these "new" products—added to the nutritious foods for which Middle America has long been famous—will greatly increase Inter-American trade.



Great White Fleet

UNITED FRUIT COMPANY

GUATEMALA ★ EL SALVADOR ★ HONDURAS ★ NICARAGUA
COSTA RICA ★ PANAMA ★ COLOMBIA ★ CUBA ★ JAMAICA, B.W.I.

Service Force, Atlantic Fleet

(Continued from page 59)

ber of disabled combat vessels from theaters of operations to the United States.

In the handling of personnel, the problem of rehabilitating returning survivors and men from combat areas has been fully recognized along with the replacement program over seas. A Fleet District Interchange Program has been set up embracing all East Coast, Gulf and the Central or Ninth Naval District. A clearing center at Lido Beach, Long Island, has been established for personnel returning from over seas. Nearly 14,000 deserving enlisted men have received shore billets through these activities with a comparable number of men qualified for sea being transferred from the districts.

A valuable study of medical logistics in connection with the removal of naval casualties from combat areas was made and promulgated. Public health conditions of foreign ports in relation to personnel immunization requirements together with vital statistics of communicable diseases were compiled and published. The health of the Atlantic Fleet for the past year was "excellent," an outstanding tribute to all naval medical officers afloat and ashore for bringing our health standard far above that of any other nation in the world.

In furtherance of logistic support, a Fleet Administrative Officer has been established in Boston, New York, Norfolk and Charleston. In addition to acting as Administrative SOPA, these officers act as direct representatives of the various type commanders of the Atlantic Fleet in administrative and logistics problems and Fleet Operational training matters. These officers are part of Service Force, U. S. Atlantic Fleet.

The furnishing of gunnery training facilities both for surface and anti-aircraft fire in connection with the enormously increased schedule of the Fleet Operational Training Command has been a logistic support of no small importance.

The activities of the Service Force include the operations and performances of the mincraft. Development of sound technique fitted them to lead the assault and sweep paths through many enemy mine fields in each invasion made by our forces from Casablanca on through Normandy and Southern France. The very nature of the duties of these little ships and these valiant crews has caused high losses, but through salvage operations and full and better understanding of the manner by which they can be kept afloat, a goodly number of these small craft have been salvaged, repaired, and are carrying on. These mincraft have not only performed in an excellent manner in mine sweeping, but they have also performed escort and patrol duties for long periods of time.

The spirit of the Service Force is fully exemplified by the performance of these mine sweepers and their stout-hearted crews in the recent Normandy operations. The gist of three of the many commendatory dispatches received from higher commands are as follows:

"Commend very highly the prompt and courageous action of mine sweepers and destroyers, in laying effective smoke screen for heavy ships and thereby permitting the latter to withdraw from heavy and damaging enemy fire. Their aggressiveness and determination to remain in the fray after being hit repeatedly was an inspiration to all hands."

"Your spirit to remain in face of particularly accurate fire from strong enemy battery without flinching was exemplary in the highest degree."

"A lion share of credit to the mine sweepers for successful accomplishment of the mission."

Commander Service Force, U. S. Atlantic Fleet, together with all the personnel thereof, takes keen pride in this force, and though the glamour is lacking, there exists in the heart of each captain, officer, and man that warm glow of satisfaction that his ship has earned, is now earning, and will continue to earn those two prize words "Well Done."

Canadian Army

(Continued from page 51)

Canadian forces anticipate that once again they will be fighting side by side with their American and British comrades to finish the job and bring to the United Nations the peace and prosperity so long awaited.

In the tasks that still lie ahead Canada looks forward to an ever increasing development of that mutual understanding and teamwork between the armed forces of the United States, Great Britain and Canada that has played such an outstanding part in the operations in the Mediterranean and on the Continent of Europe.

Perhaps nowhere has that teamwork been better exemplified than in the relationship between the armed forces of the two neighbors of North America.

Royal Canadian Air Force

(Continued from page 51)

their work has comprised defensive patrols over the beach-heads and shipping, offensive sweeps and ground-strafting. Typhoon Fighter-Bomber Units, all of which were released from service in the Western Hemisphere following the close of the Aleutian Campaign, are moving in close support of the army and carrying out the functions of dive-bombers, attacking enemy troops, tanks, headquarters, bridges, gun positions, ammunition dumps, etc.

Our general Reconnaissance Squadrons, equipped with Liberator, Ventura and Wellington Landplanes, Catalina and Sunderland Flying Boats and Canso Amphibians, have taken an active part in anti-U-boat operations in the Northwest Atlantic, off Iceland and Norway, in the Bay of Biscay and the Indian Ocean. Operations in the Northwest Atlantic area are carried out in conjunction with the Royal Canadian Navy, by aircraft operating from bases in Eastern Canada and Newfoundland.

While the overseas operational effort of the R.C.A.F. has thus been extensive, it must, however, be emphasized that the training of aircrews has remained a major task of Canada, and it was in connection with this phase of our activities that the most recent announcement of policy was made. The R.C.A.F. has today in the United Kingdom more than enough personnel to fulfill Canada's commitments in the final months of the war in Europe. We have had, for three years a steadily enlarging nuclear strength in the Far East against the day when the air battle in that theatre will become a major one. We possess, in addition, a sufficiency of reserves, trained and in training, not only to meet obligations as they may be viewed in the light of the existing situation, but also to meet any emergencies which the course of the war may be expected to produce. Reflecting this situation, the training facilities of the British Commonwealth Air Training Plan in Canada are to be progressively reduced and the R.C.A.F. is releasing to the Canadian Army approximately 4,200 pre-aircrew recruits. Recruiting for the Air Force has been indefinitely suspended.

The last of the students presently pass-

ing through the plan will have completed their final training in the spring of 1946. The great plan, therefore, moves toward its conclusion after producing nearly 115,000 aircrew up to 1 September 1944, and, with a current production rate of approximately 39,000 per annum, is headed downward to a rate of 21,000 per annum to become effective by next spring.

It is accordingly, safe to say that R.C.A.F. policy is geared to the trends of the war as they can be determined at the moment, and as a consequence we are in readiness for whatever new types of operations the future will bring while ensuring that a sufficient reserve of aircrew remains available for all conceivable emergencies.

War On the Economic Front

(Continued from page 54)

The export control program has been another major factor in this agency's supply operations and in the war of production. Through export controls we have been able to prevent strategic commodities — and technical data — from reaching the Axis; conserve scarce U. S. materials needed for our war production requirements; and to supply minimum essential civilian requirements of friendly nations dependent for a share of their supplies on the United States. We have carefully screened commercial exports so that our production will go only to those countries and into those industries which can make important contributions to the combined United Nations war effort.

Yet in spite of the inevitable effects of war requirements upon normal commercial exports, a surprisingly large volume of exports has continued to move through cash purchase channels. In the four pre-war years from 1935-1938, total United States exports averaged less than \$2,800,000,000 a year. During this time about 30 percent of our private export trade was with Germany, Japan and other areas since cut off by the war. In the first six months of 1944 our cash exports—exclusive of lend-lease—were at an annual rate in excess of \$2,800,000,000 a year, and they have been increasing now for a full year.

We have carried the war on the economic front even further through such economic warfare operations as economic intelligence, blockade and preclusive purchases.

Intelligence work of the Foreign Economic Administration has helped determine the enemy's economic potential for carrying on the war; assisted our military forces in planning future operations by furnishing information as to the types of weapons the enemy was developing and how the enemy's arms production or communications facilities have been affected by war; ascertained the locations, output and relative importance of enemy industrial installations and located transportation bottlenecks and weaknesses—thus aiding the air forces in selection of strategic bombing objectives; analyzed the effect on enemy economy of the loss of territory or the loss of strategic resources; indicated effectiveness of blockade and preclusive buying measures and provided the informational basis for any necessary changes in those measures.

Through these programs we have sought to use our production to strengthen the war effort of our allies and to use their production to strengthen our own war effort. We have sought to utilize every economic weapon to back up our fighting men in the combined United Nations drive to win complete victory over the Germans and the Japanese.



HERE'S THE BATTERY THAT

Stays Fresh

TO POWER FLASHLIGHTS, BAZOOKAS, MINE DETECTORS,
FIELD TELEPHONES AND HUNDREDS OF OTHER VITAL
WAR WEAPONS



Leakproof

BATTERIES



RAY-O-VAC COMPANY
MADISON 4, WISCONSIN

OTHER FACTORIES AT CLINTON, MASS. • LANCASTER, OHIO • SIOUX CITY, IA. • FOND DU LAC, WIS. • MILWAUKEE, WIS.



Wherever there was action...

THERE WERE AGWI SHIPS

ON every sea . . . in the teeth of every known hazard . . . AGWI has been operating a huge fleet of ships through three years of war under the able direction of the War Shipping Administration.

Many of these vessels flew the AGWI flag before the war and the rest were assigned by WSA, but wherever there was action, these ships were in the thick of it.

They have taken part in every major invasion . . . have carried troops, munitions, food, Lend-Lease supplies, technicians, to the far corners of the earth.

Ashore, too, AGWI has been 100% mobilized, with all our facilities and personnel engaged in wartime duties.

Never in over 100 years of merchant service has AGWI—or any other shipping company—been called upon to tackle so gigantic a task under such adverse conditions in so short a time.

We are proud of AGWI's war record . . . proud of the part AGWI has played in backing up the magnificent achievements of the Army and Navy which are bringing us closer to total, overwhelming Victory.



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★ CUBA MAIL LINE ★ CLYDE-MALLORY LINES
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Serving Cuba, Mexico, Puerto Rico, Dominican Republic,
Texas, Florida and the South



The Soviet Navy

(Continued from page 41)

This was an operation which was entirely unprovided for in German plans, and they paid a heavy price for underestimating the importance of the Black Sea Fleet. Cruisers as well as other war ships took part in these operations.

Here is another episode which occurred towards the end of 1941: The Germans had surrounded Sevastopol in a ring and were sparing neither effort or means to reduce the city. The defenders of Sevastopol vigorously contested every inch of ground, taking a heavy toll of enemy lives. They knew that notwithstanding formidable difficulties the Black Sea Fleet was supporting them. Food, ammunition and replenishments were being delivered not only on merchant vessels but also on warships, including fast cruisers. Warships, moreover, penetrated to Sevastopol Bay and inflicted heavy casualties upon the enemy.

The Germans were in a hurry to reduce Sevastopol so as to release forces for contemplated incursion in to Kuban and Caucasus. The whole Crimea, with the exception of Sevastopol was already in their hands. They were confident that the days of Sevastopol were numbered and that the Black Sea Fleet was powerless to render it any effective assistance. They were therefore very surprised when in the latter days of December 1941 the Soviet cruisers and destroyers entered the harbor of Feodosia and landed large forces. The enemy was so staggered that he evacuated the entire Kerch Peninsula that very day.

The effect of this operation was to open a new Crimean front which was also entirely unforeseen by the German Command. The position of beleaguered Sevastopol was eased and the enemy was forced to strengthen his forces in the Crimea and thus relax his operational activity on the southern front.

The defeat of the Germans at Stalin-grad fired the sailors of the Soviet Navy with fresh enthusiasm. This new phase of war, in which initiative completely passed to the Red Army was marked by a series of Naval operations which helped to accelerate the enemy's defeat. One recalls the year of 1943 when the Germans clung desperately to every foot of ground in an attempt to postpone their defeat and destruction. The Germans held the city and port of Novorossiisk, a well fortified strongpoint protecting their maritime flank. Natural conditions and large stocks of cement in the cement works of Novorossiisk favored the defenders. The Black Sea Fleet came to the rescue. One night in September the Soviet Marines approached the shore on small craft and effected a bold landing within the harbor of Novorossiisk itself. The operation was a brilliant success. After a certain amount of resistance the enemy abandoned their positions in the Novorossiisk area and retreated to the Taman Peninsula.

The attempt of the Germans to seize the Soviet ports in the Barents Sea met with such vigorous rebuff that never again did they venture to break through the Soviet defenses or to land troops with the object of turning the Soviet flank. The sailors of the Northern Fleet securely held the Kola Straits and ensured operations of stability in the maritime theatre. They made possible the maintenance of communications with the Allies through the ports of the Kola peninsula and the White Sea.

The war in the Soviet maritime theatres has been of a peculiar character. There have been no big naval engage-

ments of the usual brief duration followed by prolonged lulls. The war at sea has gone on unceasingly, without rest or pause. This stubborn struggle sometimes took the form of big operations like the defense of Odessa, Hango, Tallin, Sevastopol and the battles of Leningrad, and Caucasus. In addition the Soviet Navy carried out big landing operations on Feodosiya, Novorossiisk and Kerch, escorted convoys, bombarded enemy bases. It prevented the evacuation of the German troops from the Crimea, and the Baltic, and Norwegian ports, systematically harassed the enemy's communications and carried on ceaseless submarine, air, and mine warfare.

The Soviet Air Force

(Continued from page 40)

the Luftwaffe's best trained flying crews and their best aces. The Soviet Air Force, on the contrary, has huge reserves of highly skilled fliers, the finest of them is Colonel Alexander Polrichkin Guards who was designated by President Roosevelt as the best ace of the air forces of the United Nations.

Mastery of the air has given the Red Army freedom of action on the ground. The Red Army blows now come as complete surprises to the Germans since their reconnaissance planes are unable to get to the Soviet lines and can not furnish the command with information regarding the movements of the Soviet troops in sufficient time. Moreover, when operations fully develop the Red Army offensive is supported by forceful blows from the air. The Soviet attack and bomber craft pave the way for the ground forces whereas the Germans are prevented by superior force of fighter planes from rendering air support to their ground forces. Very often such air attack is just that additional force which tips the scales in favor of the Soviet troops.

To illustrate the effectiveness of the activities of the Soviet air arm in operations against the enemy's ground forces, I shall describe an action on the Belorussian front fought in the Summer of 1944.

Having blasted the enemy defenses near Rogachev, units under Marshal Rokossovsky dashed for Bobruisk from the east and south. The Germans, realizing they were threatened with encirclement, directed their efforts to holding back Soviet troops who were driving to surround their flanks. But this the Germans failed to achieve as they were dispersed by attacks from the air. Advanced columns of the main body of retreating Germans were subjected to air attacks so fierce as to completely stop traffic in one sector, all roads being blocked with battered German trucks, carts, disabled tanks and guns. The force which cut off the enemy's retreat was not very strong. Therefore, fearing that the Germans might escape through a weak spot in the ring at night, Marshal Rokossovsky decided to finish off the surrounding group without delay. He ordered his air units to deal a concentrated blow and his ground troops to attack the enemy on the march. Although only two hours remained before darkness the pilots dealt three successive assaults; one of which was launched by more than 500 planes, dispersing and demoralizing the enemy. After this the Soviet troops had little difficulty in annihilating the German Bobruisk group.

In all operations the Soviet Air Force ably cooperated with ground troops. Mass Soviet air attacks have caused huge losses in men and equipment to the enemy and weakened his resistance. The

Soviet Air Force is now a powerful force which together with the glorious armies of our Allies will crush Nazi Germany out of existence.

Shipbuilding in the U.S.S.R.

(Continued from page 41)

could be supplied with Soviet materials, Soviet-made mechanisms and armaments. In this, Soviet shipbuilding enterprises differed from those before revolutionary Russia, which largely had to import mechanism and navigational instruments from abroad.

During ten years of first and second five-year plans, four times as many ships were built as during the decade of most intensive ship building before the first World War. Their tonnage, moreover, was three times greater. The growth of shipbuilding in the USSR is also revealed by following: On eve of the war against Germany in 1941, the production of the ship building industry had increased fourfold as compared with 1937. The number of workers engaged at shipbuilding yards had doubled; the number of engineers and technicians had increased by fifty per cent.

Patriotic war had introduced great changes in shipbuilding. This is especially true of the Leningrad ship yards. Many Leningrad workers, engineers, and technicians left for the front during the first days of the war. Those who remained labored with redoubled energy. Shipyards acquired large numbers of working women who in a short time mastered such man size jobs as riveting and assembly work. Many of them even became excellent smiths. Under difficult conditions of siege, under systematic shelling and bombing, the dockyards of Leningrad continued to build and repair ships. Instead of building large ships requiring elaborate construction cycles the yards now turned out numerous small vessels required for war operations, in great numbers. Several series of such fighting ships designed and built at Leningrad were transferred almost directly from the slipways to their battle stations.

As a result of destruction wrought to Leningrad by German barbarians, Leningrad shipbuilders were more than once compelled to transfer their activities to territory not prepared for ship construction and lacking even essential equipment. The harder the conditions, however, the more staunchness and ingenuity they displayed.

In the south during the first phase of the war a great part of the shipbuilding enterprises was evacuated to the east. Though evacuated enterprises and their personnel were several times compelled to move on to other locations they did not pause in their job of restoring and maintaining Black Sea naval vessels.

Most of the river dockyards on the Volga, Kama, and other eastern arteries of the Soviet Union, have been largely transformed during the war. Building scarcely any river boats and barges they are constructing seagoing ships, large and small. Availing itself of evacuated machinery, one such enterprise organized conveyor production on wooden ships. Another enterprise during the war began production line construction on duralumin ships. Many river plants have thus been turned into ship building yards for sea going vessels. River enterprises, too, have more than doubled their production during the war.

Regardless of all difficulties, the Soviet shipbuilding industry has been successfully meeting all requirements of the Navy and undoubtedly will contribute largely to final victory.



The Trees Live On

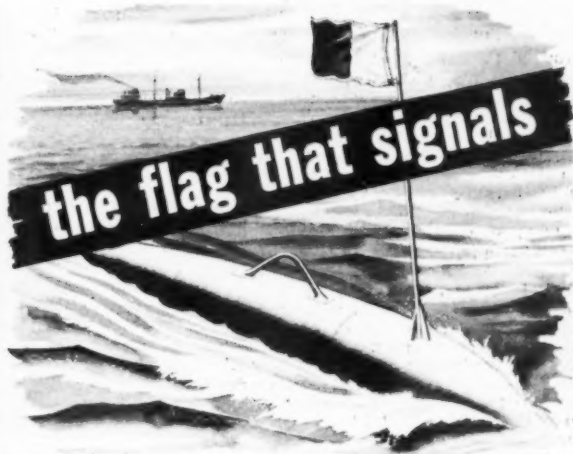
THROUGH seasons of rainfall, through seasons of drouth, the trees live on, writing in their rings of growth, the indelible story of the passing years. Seasons of heavy rains; periods of adversity—all are written in the heart of the tree; each a tempering interlude in a life of development and growth.

—And civilization lives on, writing mankind's history of fair seasons in the development of science—in the progress of mankind toward a better life; writing a history of blight years in ruthless wars and demoralizing depressions. But these, too, are but tempering interludes from which mankind emerges stronger, with a steadfast urge to grow—to develop—to progress.

From this destructive, blighting war will come a new period in the development of mankind. The sciences, now pledged to destruction, will be turned to man's betterment—new products, new methods, new materials will become the constructive tools by which mankind will advance in its march toward maturity.

In farming, the nation's basic business, parallel advances will be made. John Deere designers today, looking forward to the time when productive tools can be turned entirely to peacetime requirements, are working on new equipment and extensive improvement in present equipment to the end that farming and farm life can be made more profitable and even more satisfying as a way of life.

JOHN DEERE
Moline, Illinois



Mine Sweeps Clearing the Path to Victory

Ahead of invasion armies, under the guns of well-fortified beach heads, the brave little mine sweepers have been clearing the path to victory, sweeping away lurking mines that spell death to landing craft and convoys.

The flag that signals "mine sweep at work" flew ahead of the Army and Navy at Algiers, Salerno, Anzio, Normandy, New Guinea, Leyte—wherever the United Nations have struck the armies of oppression.

Much of all this important Mine Sweeping Gear is made by the Bettendorf Company — railroad equipment manufacturers.



Other Products For Our Armed Forces

In all theatres of war, peace-time products of Bettendorf Company are enlisted for war work. They include —

Slice Master Bread Slicing Machines, by the Originators of Sliced Bread.

Micro Internal Grinding Machines — Precision Grinders which are standard equipment in principal Navy Yards, Army and Air Force bases.



THE BETTENDORF COMPANY
BETTENDORF, IOWA
Manufacturers of Precision Equipment

The Eighth Fleet

(Continued from page 47)

stopped the landing of supplies.

Port facilities were almost negligible at Anzio and for this reason practically all supplies had to be lightered from ships well off shore and moved by landing craft to the beaches. Close approach to the coast could not be made by cargo ship because of heavy and accurate enemy fire.

This assemblage of shipping offshore afforded an inviting target for the German Air Force and over fifty air attacks including use of radio-controlled bombs, torpedoes and parachuted mines were made. Throughout all this time U. S. Navy destroyers and patrol craft defended the anchorage so successfully that ship losses were kept very low. Cruisers and destroyers of the Eighth Fleet supported the army ashore by frequent bombardment of enemy batteries, strong-points, tank and troop concentrations with excellent results.

For weeks the operation at Anzio was a touch and go affair with landing craft operating a shuttle supply service in severe weather from the bases at Naples and Pozzuoli Bay. Despite heavy enemy air and shore opposition — the landing craft made the run past enemy occupied territory — the Army divisions in the crowded Anzio beachhead were supplied and built up while the army on the mainland was remounting forces in the mountainous interior for the smash in May that was to break through the German lines and open the road to Rome.

Too much credit cannot be given the officers and men of our Landing Craft fleet for the tremendous task they accomplished in maintaining the supply run to the beachhead at Anzio. Due primarily to their accomplishments supplies were waiting on the road to Rome when the main body broke through the German defenses around Cassino.

In the meantime reorganization of amphibious forces and training of new Army divisions in amphibious landings were carried on in the Oran area and at Salerno. French divisions were rehearsed in landing over the beaches at Arzew and French cruisers were trained in modern technique of shore bombardment under the supervision of Rear Admiral Lyal A. Davidson, U. S. Navy, Commanding the Gunfire Support Forces of the Eighth Fleet.

On 17 June 1944 French troops carried out an amphibious operation to capture the island of Elba. Although the naval forces employed were under British command, more than 60 percent of the landing craft used in the bitterly contested assault were U. S. Navy.

In February I received a directive of the Supreme Allied Command to commence planning and preparation for an invasion of southern France. For this my planning staff worked in close collaboration with the Army and Air Forces as well as Allied Commands. Mention must be made of the immense complications which ensue in the planning phases where British, French and U. S. are all concerned with the respective services of each, and the absolute necessity for working out combined procedures, special instructions, and adaptation of the peculiar abilities and requirements of each, to result in completely coordinated effort in the final assault.

In July the invasion fleet for the attack on the southern coast of France started assembling in the ports of North Africa and southern Italy with the main group concentrating in the harbor at Naples. Probably never in history had

residents of Naples ever seen so great an amount of shipping in their beautiful harbors. It was a veritable forest of masts.

Later the Battleship Division and carriers came into the Mediterranean to join the Eighth Fleet. It was the first time in this war that our battleships or carriers participated in an invasion operation in the Mediterranean. Prior to this time the only U. S. carrier in the Mediterranean was the USS WASP when this ship went to the aid of Malta in 1942 when that island was under constant attack from the Luftwaffe.

The various convoys of the naval task force under my command for the invasion of southern France comprised slightly over 1000 ships and craft of all types (exclusive of small landing craft carried by ships or larger craft). It was a truly allied force with 641 ships flying the U. S. Flag, 316 the British, 41 the French and even included units of the Polish and Greek Navies. The force included ships of nearly every type except submarines; carriers of troops and equipment with their various escorts; gunfire support ships including battleships, cruisers, destroyers and rocket firing craft; aircraft carriers; minesweepers of all types; motor torpedo boats for action against similar enemy craft; and miscellaneous types such as salvage, supply, repair and rescue ships and craft.

The convoys and forces for the invasion sailed from a number of widely separated ports but all arrived at their appointed places for the assault on the morning of 15 August.

The invasion had been preceded by four days of air bombardment of specially selected targets. French Commandos and units of the U. S. Special Service Battalions were landed on Hyeres Islands and near Cape Negre by forces under the command of Rear Admiral Lyal A. Davidson, U. S. Navy, to secure the Western Flank. Simultaneously strong units of U. S. and British paratroopers were being dropped inland to block routes by which the enemy might bring up reinforcements.

The main landings were carried out in three principal sectors. The attack in the Frejus-St. Raphael sector was made by forces under the command of Rear Admiral Spencer S. Lewis, U. S. Navy; the St. Maxime-St. Tropez area under the command of Rear Admiral Bertram J. Rodgers, U. S. Navy, and the attack on the beaches in Pampellone and Cavalaire Bays under the command of Rear Admiral Frank J. Lowry, U. S. Navy. The gunfire support groups of the above forces were commanded by Rear Admiral Theodore E. Chandler, U. S. Navy, Rear Admiral Morton L. Deyo, U. S. Navy, Rear Admiral Carleton F. Bryant, U. S. Navy, and Rear Admiral R. M. Mansfield, R. N., respectively.

At dawn heavy bombing of the landing beaches commenced followed by a devastating bombardment which ceased only when the boat waves approached the beaches. Opposition was largely neutralized in spite of the elaborate coastal defenses on which the enemy had expended so much labor.

Spotting for the shore bombardment, providing protection for our assault forces and assisting the Army Air Force in air attack on the enemy were carrier based aircraft from escort carriers off the coast. This naval air force was under command of Rear Admiral T. H. Troubridge, R.N., while Rear Admiral Calvin T. Durgin, U. S. Navy commanded one of the two carrier groups into which it was divided. The carrier based aircraft performed brilliantly through-

out the opening days of the campaign and on one particularly successful day destroyed over 300 vehicles and 19 locomotives in harassing the enemy retreat.

Toulon and Marseilles fell almost simultaneously to French Army Forces but not before their strong defenses had been bombarded for several days by battleships, cruisers and destroyers. The fall of the approaches to Marseilles marked the first landing by U. S. Marines in the European Theatre. Marines from the U.S.S. Philadelphia and U.S.S. Augusta landed on Pomègues and Ratonneau Islands to guard the German garrison following their capitulation to our naval forces. In all about 850 Germans surrendered to Captain Walter Ansell, U. S. Navy, commanding U.S.S. Philadelphia.

The invasion of southern France was witnessed at first hand by Secretary of the Navy Forrestal, who was aboard my Flagship during the assault and the following day visited Army units ashore.

Toulon, where the French commander had scuttled his fleet when the Germans occupied all of France in November 1942, shortly after the Allied occupation of North Africa, had been damaged severely. German demolition units had destroyed the great naval base and other installations while shore bombardment by Allied naval vessels and bombing by the Army Air Corps had also caused great damage. Marseilles to the west of Toulon had met a similar fate at the hands of the defending German forces before they surrendered.

The firing had hardly died away when large numbers of Eighth Fleet minesweepers were clearing channels into the captured ports and salvage forces aided by Seabee construction companies were moving in to rehabilitate port facilities and improvising means to unload the convoys required for the support of French and U. S. Armies in their rapid advance to Germany.

The liberation of southern France was the culmination of the series of amphibious operations commencing with the landings on the Moroccan coast in November 1942. In all of these campaigns the U. S. Navy played a large and in most a major part. The people of the United States, though their feelings and imagination are rightfully impressed by the great distances and major naval forces in our Pacific war, can remember with pride the accomplishments of the U. S. Navy in the Mediterranean.

Caribbean Sea Frontier

(Continued from page 58)

guarding the Panama Canal, behind which heavy laden convoys ply to and from the fighting fronts. The administration of these Caribbean defenses has been the job of the Navy.

Throughout the course of the war the primary activity of the Navy in the Caribbean has been the protection of merchant shipping, the sinking of enemy submarines; and together with the Army, the guarding of the Atlantic approaches to the Panama Canal. To accomplish this purpose all the instruments of modern warfare have been employed.

The tactics used are those calculated to detect and destroy the enemy long before he can get close enough to attack merchant shipping or hit any of the vital shore areas in the Caribbean islands.

The success has been so great that no longer may U-boat skippers come into this area with impunity, for the Navy in the Caribbean is ready; and when the war is concluded in the Atlantic, it is prepared to move on immediately to a more active theater of operations.

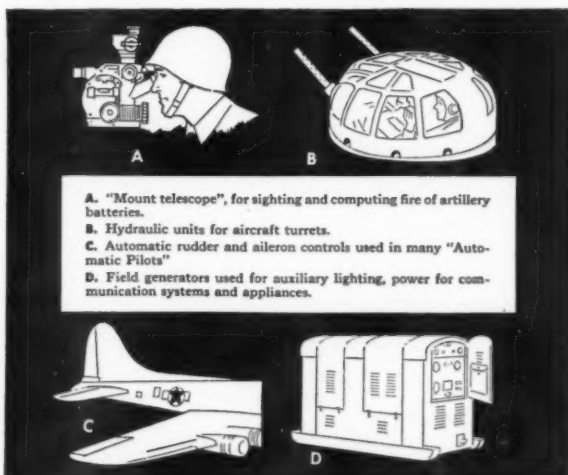


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ASF—Third Year of War

(Continued from page 28)

hardly time to put an item of equipment into production before improvements made it obsolete. Manpower was and still is the principal cause of tire shortages, particularly in heavy truck and heavy bomber categories. The shortage of cotton duck still is extremely serious.

Except for these items, however, production is no longer a serious problem. Other difficulties, caused by the increasing tempo of our attacks, have taken its place. One of these is spare parts. Because at the beginning of the war we had only limited experience to draw upon, the production of spare parts was based on estimates which in many cases have proved inadequate. The Army Service Forces must procure, store and ship to theater commanders more than 800,000 different items of spare parts. Striking the proper balance has been most difficult. Climatic and road conditions, battle losses, the uses to which machines are put, unusual strains they must undergo, sometimes inexperienced operators . . . all these things complicate the problem.

Raw materials no longer prove a bottleneck. We have enough rubber and synthetic rubber, enough metal (with the exception of tin), enough of the chemicals required in explosives. It is safe to say that raw material shortage in the future will not prove serious.

The shipment overseas of some four million men and their equipment and supplies has been handled expeditiously, in spite of bottlenecks in shipping. The staging areas and the ports have proved adequate.

American railroads have proved adequate to handle both personnel and freight to East and West Coast ports. It was feared for a time that with the end of hostilities in Europe, Pacific ports and the rail lines over the Rockies would be clogged. We are convinced now that this will not be the case, and that both the rail and the port facilities will be sufficient to handle all the future tonnage to the Pacific war, with only a small overflow to be handled from Atlantic ports.

Officers and men trained in Army Service Forces have performed valiant service in all theaters of operations. Our railroad engineers have resolved a situation in Northern France which many considered insoluble. They are operating 7,000 miles of rail line, with speed and efficiency. Motor truck convoys have performed beyond expectations. Port rehabilitation has been faster than was deemed possible. The landing of half a million vehicles on the French coast in the first 15 weeks of the invasion, and the discharge of more than twice as much tonnage as General Pershing received in the 19 months of the first World War, were logistics triumphs. Clothing and rations supplied to our men by the Quartermaster Corps have been more than adequate, and petroleum fuels have kept up with the troops everywhere. Pipeline construction and the building of gasoline storage facilities have kept up with our most rapid advances. The Medical Corps has reduced fatalities to an unprecedented low, and the health of the Army has been the highest on record. Quick evacuation of the wounded, new methods of chest surgery, the use of penicillin and sulfa drugs all have contributed to this success. Malaria and typhus control measures have proved most effective.

Another accomplishment of the year was the reduction of paper work throughout the Army. The administration of

military justice has been speeded; financial operations are moving smoothly; prisoners of war now are processed and handled more efficiently than they were earlier in the conflict.

With a greatly increased work-load, the Army Service Forces have managed to reduce personnel, both military and civilian, and to operate with increased efficiency and speed.

Department of State

(Continued from page 16)

four nations also made the important statement that they recognized the necessity of establishing at the earliest practicable date a general international organization, "based on the principle of the sovereign equality of all peace-loving states, and open to membership by all such states, large and small."

We particularly welcomed the adoption of the principle of sovereign equality of all peace-loving states, irrespective of size and strength, as partners in a future system of general security. Nowhere has the conception of sovereign equality been applied more widely in recent years than in the American family of nations, whose contributions to the common effort in wartime will be followed by close collaboration in building the institutions of peace.

Another important step in the construction of an international peace and security organization was taken at the Dumbarton Oaks Conversations held at Washington from 21 August to 7 October 1944. Here representatives of the four nations which signed the Moscow Declaration met for the purpose of developing plans for a general international organization. Among the seventeen representatives of the United States at the Dumbarton meeting, there were three Army and three Navy officers.

From personal experience as Chairman of the American group I am happy to report that the discussions were carried on in a spirit of friendly cooperation. Representatives of the four nations agreed upon proposals for the establishment of a general international organization, having for its primary purpose the maintenance of international peace and security and the creation of conditions that make for peace. These proposals were given to the press and are now the subject of public discussion in this country and throughout the world. While there are still some open questions, the proposals reveal the wide range of subjects on which agreement was reached at Dumbarton. After these proposals have been completed they are to serve as the basis of discussion at a full United Nations conference at which the charter for the international organization will be drafted.

Secretary Hull has emphasized the responsibility of the people for the successful completion of this great project, in a statement made at the close of the Dumbarton meeting:

"It is my earnest hope that, during the time which must elapse before the convocation of a full United Nations conference, discussions in the United States on this all-important subject will continue to be carried on in the same non-partisan spirit of devotion to our paramount national interest in peace and security which has characterized our previous consultations. I am certain that all of us will be constantly mindful of the high responsibility for us and for all peace-loving nations which attaches to this effort to make permanent a victory purchased at so heavy a cost in blood, in tragic suffering, and in treasure. . . .

"The road to the establishment of an

international organization capable of effectively maintaining international peace and security will be long. At times it will be difficult. But we cannot hope to attain so great an objective without constant effort and unfailing determination that the sacrifices of this war shall not be in vain."

The Red Army

(Continued from page 40)

up strong reserves to the sector where the breach was effected. The present war shows that this prewar theory of the Red Army was not erroneous and in essence proved sound and effective.

Generally speaking Soviet Military skill ranked high even before the war. However, at the beginning of the campaign it could not display itself in full measure because of the perfidious attack of the fully mobilized Nazi Army. This gave Germany some temporary yet very substantial advantages. In the early stages of the war Germany enjoyed superiority in tanks and aircraft and that made the struggle very uneven.

Despite that, in the Summer and Autumn of 1941 the Red Army, through active defense, wore down the enemy so much that he could not then withstand the decisive actions near Moscow and Rostov.

In the winter of 1943-1944 the Red Army conducted a series of fine operations on the right bank of the Dnieper of which the most remarkable was the Korsun-Shevchenko operation which resulted in the annihilation of the Eighth German Army. That same winter the Red Army breached very strong enemy defenses on the Leningrad front, driving the enemy back to Narva and Pskov.

In the course of 1943-1944 the most striking feature of the Red Army operations was the skill with which it blasted enemy fortifications and developed this success. The enemy had by then abandoned any attempt at offensive operations, hoping to stem Soviet advances by highly developed means, more often concrete defenses. At this phase of the struggle the Red Army naturally concentrated particularly on the art of blasting the enemy works and I must say it tackled the problem most successfully. This was clearly demonstrated on the Karelian isthmus. Here, most amazing was the speed with which works considered to be the most formidable and up to date were rescued.

Iron and concrete fortifications 95 kilometers in depth were blasted at the rate of nine to ten kilometers a day!

In the Summer of 1944 in Byelorussia, Baltics, Western Ukraine, and Danube, the Red Army accomplished wide scale operations during which five strong enemy groups were surrounded and wiped out: five divisions in area of Vitebsk, five divisions in the Bobruisk region, nearly 10 divisions in the Minsk area, almost five divisions in the Brody region and 15 divisions on the Kishenev theater.

In respect to the scope and decisive results no other campaigns can be compared with the Red Army Summer operations of 1944. And of all campaigns conducted by the Red Army the last was the most outstanding. As a result of these operations on a front 3,000 kilometers long the enemy Army sustained a severe defeat and was hurled back 600 and 800 kilometers, losing no fewer than a dozen divisions.

The above proves that the Red Army reached a high stage in the art of war and is undoubtedly the most powerful and one of the best trained Armies in the world.



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The Battle of Montelimar in Southern France

(Continued from page 35)

a narrow defile of the Rhone Valley called "Montelimar Gap."

In view of these developments, the Provisional Armored Group, now known as Task Force Butler, (commanded by Brigadier General F. B. Butler), was ordered westward from Gap to Sisteron to occupy the high ground overlooking Montelimar. In the late afternoon of 21 August, the Task Force artillery went into action and scored a rapid succession of hits on enemy columns. By nightfall, two railroad trains and great numbers of vehicles were destroyed, and there was every indication that the enemy had been taken by surprise.

Finding their escape route under artillery fire, the Germans sent out vehicles and tanks on reconnaissance missions to determine the strength of the attacking force. They were immediately fired on by artillery and withdrew. However, on the afternoon of the 22nd, the enemy returned to the attack.

To the east, the 36th Division was moving up, but it was still ninety miles away. Task Force Butler was now threatened with being cut off by a superior enemy force. Since supplies were coming from the beaches 235 miles away, ammunition and gasoline had to be used sparingly, with a certain minimum kept aside in the event of a strong German counterattack. Extended lines of communication continued to restrict operations.

On 23 August elements of the 36th Division began to move into the area, and joined in the attack on enemy transport. The following day American troops established road-blocks south of Loriol, but the enemy broke through on 26 August.

The Germans fought desperately to keep open their channel to the north. Finding this channel harassed by flanking artillery fire, they were faced by the necessity of clearing the high ground overlooking the approaches to Montelimar Gap. This they were successful in doing—for brief periods—by a series of counterattacks, employing superior forces supported by armor. This see-saw action continued through the 29th of August, during which time the Germans were forced to pass their armor, infantry, and trains through a veritable "shooting gallery" set up by the American Forces on the high ground east of the Gap. Despite heavy bombing, strafing, shelling and attempted road-blocks, the enemy succeeded in extricating considerable personnel by fording the Drome River. On the 30th, the 3rd Division arrived from the south and proceeded to mop up the isolated pockets of resistance which had been unable to escape.

The German Nineteenth Army, originally composed of eight divisions, was now reduced to two infantry divisions, one armored division, and certain miscellaneous battle groups which succeeded in escaping from southern France. In the vicinity of Montelimar, the loss of transport and heavy equipment was staggering. Highway 7 was strewn with wreckage consisting of burned-out vehicles, destroyed tanks and guns, upturned wagons, dead horses, and great quantities of light equipment.

For a distance of twenty miles between Montelimar and Livron alone, ground and air forces destroyed 2000 motor vehicles, 1000 horses, 20 heavy anti-tank guns, 12 heavy anti-aircraft guns, 6 heavy railway guns, 10 self-pro-

pelled guns, 50 light anti-aircraft guns, 3 batteries of artillery, and one Mark V Tank. In addition 800 loaded motor trucks and three batteries of 88's were captured intact.

Much credit for the enormous destruction at Montelimar goes to the 12th Tactical Air Command, which had bombed and strafed retreating enemy columns since D-day. The Seventh Army's air support gave the Germans no respite. Advance air bases followed closely on the heels of ground troops, and problems of supply were solved in a superior manner. Emergency fox holes, dug deep along every road and marked with tufts of straw, showed clearly the Germans' respect for Allied planes.

The Montelimar episode was merely an incident in the Seventh Army's advance. But it represented a stunning blow to the German Nineteenth Army, particularly from the point of view of organization and equipment. The Seventh Army could now continue its rapid advance to the northeast and form a junction with the Third American Army, thus sealing off the last escape route for enemy forces fleeing toward the Rhine.

Lacing the Boot of Italy

(Continued from page 43)

rugged barrier between the Po Valley and the "boot." In this area the network of communications pinches down to a comparatively few lines which require many bridges, viaducts, tunnels and embankments. The principal enemy supply dumps were north of this area. A successful interdiction of the rail system would force the Hun to rely on motor transport and consequently upon gasoline, supplies of which were largely north of the line and subject to comparatively easy destruction. Our B-25 Mitchells and B-26 Marauders concentrated on bridges and viaducts. Only the amazing "pinpoint" accuracy our medium crews had developed made the use of medium bombardment forces in this type of operation practical. Time after time their formations dropped all their bombs in small target areas from comparatively great heights. Many times—in attacks on marshalling yards at Rome and Florence, they knocked out vital communications links for example—without damaging nearby structures of historical and religious importance. Meanwhile our Thunderbolts were at work on smaller bridges, in maintaining interdictions achieved by the mediums and in deadly strafing of road and rail traffic. As the Hun was forced to the roads and highways, the Thunderbolt daily toll of his motor transports ran into hundreds and thousands. Meanwhile our forces, particularly our A-20 Bostons, bombed supply dumps of all kinds north and south of the "strangle" line.

On 11 May "Operation Strangle" was superseded by an operation called "Diadem" in which the interdiction achieved by "Strangle" was maintained and more attention was again given to close support of Allied ground forces which that night launched their new ground offensive against the strangled Hun. That offensive carried to the enemy's "Gothic Line" defenses between Pisa and Rimini, the northern limit of "Strangle."

Beginning in mid-June TAF also flew close support for the invasion and occupation of Elba. Then—after the destruction of 25 primary road and rail bridges across the Po River north of the Gothic Line—the isolation of German armies in Italy was virtually complete for the time

being, and Tactical swung almost its full strength into the invasion of Southern France and the preparations for it.

On D-Day TAF flew more than 3,000 sorties as its mediums and fighters pounded the beaches, defense positions and communications and as our C-47's landed thousands of troops and their equipment with remarkable precision. Within a few days the entire Southern France battle area had been isolated and enemy movement within it paralyzed in a wide arc from west of Marseille to north of Valence and east to the Italian border, and a few days later the ground forces had advanced within reach of tactical air support from the north of France. TAF again turned its attention to the destruction and isolation of the German armies in Italy. Thousands of sorties have been flown against Gothic Line positions by all types of combat aircraft, and the attack on supply lines in and north of the battle area has been resumed, carrying far north of the Po Valley to cut off the wounded Hun's retreat to his "heart-land."

Whatever the flying and ground personnel of the 12th Air Force and the other Tactical Air Force units are called upon to do in the balance of 1944 and in the grim months beyond, the skills and methods they have learned, the devotion to duty they have proved, will be great assets to our cause.

The Caribbean Defense

(Continued from page 58)

identified to approach the defended areas.

An innovation in training was introduced by the Joint Command Post, directing the operations of all branches. Taking advantage of the flow of aircraft carriers and their convoys through the canal, arrangements were made with the Navy for simulated attacks. In this manner the approach of a carrier was converted from a routine cruise into an interesting and instructive training period. It gave the Navy practice in striking at an unknown target and permitted the canal defenders to increase their combat efficiency through meeting new and constantly varied methods of attack.

Credit for the excellent record made by Caribbean Defense Command is shared by the two major subdivisions of the Command, namely:—Panama Canal Department, presently under Maj. Gen. G. Ralph Meyer, as deputy commander, and the Antilles Department, commanded until recently by Maj. Gen. William E. Shedd and now headed by Maj. Gen. E. Forrest Harding.

Closer contact with the Latin American republics was made possible by the War Department early in May, 1944, when the control and development of United States military missions in most of Latin America was vested in the commanding general of the Caribbean Defense Command. The only nations presently outside of this jurisdiction are Paraguay, Uruguay and Brazil.

To promote closer understanding of the measures contributing to unified future defense of the three Americas, the newly-established Military Missions Division assists in the training of Latin American personnel and acts in a general advisory capacity. Not only do the missions render assistance within the countries to which they are assigned but, at the request of the local governments, they select competent personnel to attend military training centers in Panama and Puerto Rico, where detailed and advanced instruction is possible.

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Britain's Royal Navy

(Continued from page 37)

that the time had come to develop night fighting. Years of hard work and much thought bore good fruit when the Scharnhorst attempted to attack a Russian convoy. The Tirpitz, already badly wounded by the midget submarines, was again wounded by the Fleet Air Arm when it appeared that she was preparing to move.

The third commitment in the Mediterranean was met by employing both sea and air forces to subdue the enemy's submarines and by employing cruisers and destroyers for bombardments.

The fourth commitment of producing a vast personnel was only met because the requirement had been foreseen years before the landings and a large number of training establishments had sprung up all round the coast and intensive training had been proceeding over a long period. It is, however, a remarkable fact that nearly all the commanding officers of that armada of landing craft were men who were in civil life before the war.

We know now how well the fifth commitment was met. We know that when the vast enterprise was set in motion every ship fell into its proper place and every ship grounded on the enemy's coast at the exact appointed spot. It was a triumph of organization and good seamanship, and that triumph was equally shared by the United States sailors in their sector. The covering of a landing by warship fire had in the past been an essential feature of an amphibious operation, but it probably came as a surprise to many people when they learned of the vitally important part played by battleships' and cruisers' broadsides during the Normandy landing.

It was also a responsibility of the Navy to guard the flanks of the sea high-road crammed with shipping all day and all night. Minor battles and skirmishes between the British Coastal Forces and the enemy's convoys, escorted by "E" boats had been continuing without pause for the previous three years and the Coastal Forces—the M. T. B.'s and M. G. B.'s—had a proud record of successes. Now, a greater responsibility rested on their shoulders and they did their job magnificently. Submarines and "E" boats appeared to menace the stream of shipping both from the East and from the West, but they were sternly forbidden entry into the protected area.

For the minesweepers, who had been working unremittingly for four years in the fairways, D-Day was the day that they had always been praying for, the day when they would sweep a fairway for the armies to cross to the Continent. The enemy put forth a great effort to impede the armada by mines dropped from aircraft, but the minesweepers, of which there were several hundreds, saw to it that these efforts were brought to nought.

Now all eyes are beginning to turn towards the East. There the United States armed forces have, with bitter fighting and hard won victories, been steadily closing in on Japan. The effort of Britain's Royal Navy in the East has perforce so far been on a small scale owing to its heavy commitments in the Western war, but attacks by carrier-borne aircraft on enemy positions are a herald of things to come. As soon as possible the Royal Navy, in force, will be fighting in company with the United States Navy. The great combined forces that will ultimately be marshalled in the Eastern seas will undoubtedly crush the Japanese aggressors, and not only will Pearl Harbor and the long terrible list of atrocities be revenged, but the power of

the Japanese to embark on wars of conquest will be brought to an end. Once again the world will witness that close comradeship and warm friendship between the two English speaking nations that has added such incalculable strength to their conjoint operations against the enemy in the West.

Quays Of Victory

(Continued from page 36)

surance of victory. And lastly, what it has meant to this country to be a spring-board of victory, because that can only be understood by those who have lived here in the months before D-Day and, I venture to suggest, is fully worthy of your appreciation.

Planning for the return to the Continent started in the closing days of 1941 when the Commander-in-Chief of the Home Forces, General Sir Bernard Paget, Air Officer Commanding-in-Chief of Fighter Command, Sir Sholto Douglas and Chief of Combined Operations, Admiral Lord Louis Mountbatten were charged by the British Chiefs of Staff with working out the plan. At this time though, when Hitler had given himself a Second Front for the invasion of Russia and our armies were still in the making, Rommel stood on the frontiers of Egypt, and the passage of the Mediterranean, even as far as Malta, was a desperate hazard. It was only Hitler's view that we were military idiots, but more judicial observers might well have described this as military impertinence. Those historians who believe, in spite of history, that we lose every battle but the last will, I hope, record that the setbacks of the first two years of the war did not discourage us in the contemporary planning of victory.

Throughout 1942 planning continued. Tactically, much was learned by landings at Saint Nazaire and Dieppe, by minor combined operations and by the occupation of Madagascar. It having been decided by your leaders as well as ours that it was strategically sounder to give priority to operations in the Mediterranean, greater and more important lessons were learned by landings in Africa, Sicily and Italy. Following the Casablanca Conference in January 1943, an actual planning staff for cross-channel invasion was set up under a British general officer with a general of United States army as his deputy. Their plan was approved at the Quebec Conference in 1943, and their work continued until the appointment of a supreme commander and the establishment of an operational staff at the beginning of 1944.

All this is common knowledge. What neither security nor space will allow to be told till histories are written, is the volume and complexity of work that accompanied the planning. Obviously, it was not only a matter of paper schemes and marked maps. Production had to march in step with the plan, and production meant everything from synthetic harbors to the last nut in the last lorry. Designers, factory workers, shipwrights and builders first started their activities planning for the return to Europe while the Nazis still dominated the western Mediterranean, and Russia was maintaining a valiant defensive. All this may be well understandable by an expert, military or civilian, but to an ordinary man it is incredible and provocative of no small measure of gratitude for courage and foresight of our leaders and their staffs.

Much could be written on the functioning of the Allied Command. Relations of Allied commanders in other wars have shown both improvement and deterioration in turn, since the time when

Marlborough and the Margrave of Baden commanded on alternate days. We have now achieved a degree of integration and smoothness of function which it would be hard to better. It is difficult to describe, but very heartening to see in action, and it is the despair of storymongers with axes to grind. An enquiring visitor to headquarters, and I have been one, may see the head of the branch or division and if the head sends for the staff officer concerned it is even money whether he is American or British, nor do you probably know from the answer you get except from the voice or uniform. In the early stages, it may have been a little like taking two retrievers out shooting. Both are convinced of their common purpose but a little suspicious of each other's activities. But dogs who go shooting with Eisenhower have little time or encouragement to growl. A jointly planned and executed enterprise which put one army in Paris on D plus 82 and the other in Brussels on D plus 90 must surely have achieved a pretty high level of cooperative harmony.

My third point is not out of place even in a military magazine. It is an attempt to secure a fuller understanding of what this great adventure has meant for people of this island.

It attracted on to their heads and homes first, a not negligible repetition of an old-fashioned blitz, and then the flying bomb which affected a very much wider area than London. Figures of 1,100,000 houses destroyed or damaged (equal to over three years prewar output) of over 7,000 people killed and nearly 20,000 seriously wounded since the beginning of June, are some measure of continuous bombardment which has been endured with unflinching courage by British civilians.

They have had rationing of all kinds—food, clothing, petrol, and shortages of housing, transport and many of the amenities of life which have been accepted as inevitable consequences of war. Above and beyond these, they have had a concentrated period of hardship consequent upon being the training ground of liberating armies, arsenal of much of its special equipment in addition to normal war production, and launching place of invasion.

These special burdens they accepted, not uncomplaining but gladly. In special training areas farmers saw land with their lifetime's toil in it torn up by tanks and cratered by shell and bomb. Villagers left cottages dwelt in by their fathers and grandfathers. General Post Office staffs competed magnificently with incredibly increased traffic. Civil police had vastly heavier burdens laid on them by requirements of security. Merchant seamen, railwaymen, road and transport drivers, and dockers, without whom armies could not have been despatched, worked hours long beyond what one would have thought to be of human tolerance. Anonymous millions of ordinary citizens cheerfully accepted the billeting of troops, the ban on freedom of movement, restricted train facilities and the domestic coal shortages caused by the mobilization of so much coastal tonnage.

It is hard, in few words, to give a convincing impression of what this meant to people already sorely tried by 4½ years of war and which had already suffered nearly 650,000 service and civilian casualties. But all this was seen and felt by your men who on, or about, D-Day left on that great adventure, and perhaps it would be classical British understatement to say that their impression of this island gained in these hectic final months cannot have been the least favorable of their stay.

Submarines, Atlantic

(Continued from page 52)

The most interesting part of this third job was the nature of the assignment; our submariners who believe firmly in the invulnerability of their underseas vessels were given the task of helping teach surface craft that the German submarines could be liquidated. But equally as interesting as this paradox was the equipment we used for this *anti-submarine* work.

It cannot give much comfort to the enemy now for me to say that the submarines available for this work were nearly all of pre-World War I vintage, the "O" and "R" classes, twenty-five or more years old. It shouldn't comfort the enemy to know this, for if those submarines are still chugging along so well at a full-time job, what must our new ones be capable of? And, further, that enemy has taken too much by now from our anti-submarine forces to gain comfort from any statistic relative to the way those forces have conquered the German U-boat.

Keeping the over-age submarines running, fair weather and foul, night and day, has been an admittedly tedious job of upkeep, nursing, and repair. But it's been done. Their personnel have done a fine job, and their reward has been that, when qualified, they are ordered to submarines making patrols in the Pacific.

Navy men know far better than the general public what a decisive war our Pacific submarines have fought. We know that submarines were hurting the enemy even during those long early months when the other arms of our Navy could not come to grips with him. We know that the announced total of more than 700 Japanese ships sunk by submarines alone is a mighty contribution to victory in itself.

And we in the forces of Submarines, Atlantic Fleet feel that we have had some part in that contribution and we are proud of it.



A Record of Achievement....

Some of the more interesting stories to come out of this war have been concerned with the record-breaking rescue and towing work of the AT Fleet Tugs. Built to move fast and capable of tremendous pulling power, their accomplishments have been many and varied, a credit to the United States Navy and the crews operating them.

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Crushing Germany's Strength

(Continued from page 32)

Air Force and the Royal Air Force.) The combined force had tremendous fire power, its tactical application was successful, and the capability of the enemy to cause great losses did not materialize.

After that targets in Berlin and its suburbs were bombed by approximately 1,000 bombers in daylight three times during one week. These were the first large scale daylight attacks on targets in the German capital, although many more were made later. At first the enemy fighter reaction was strong but his losses were high and he evidently decided on a cautious policy. Our attack of 9 March on Berlin targets was made through clouds by pathfinder technique and it was unopposed by enemy fighters.

The destruction of the enemy's existing planes became increasingly important while the Germans were trying to repair or rebuild their bombed factories. If our fighters and bomber crews could destroy planes faster than the damaged industry could build them, our forces could attain aerial dominance and thereafter be able, without question, to attack rebuilt aircraft plants or any other targets anywhere within the Reich. Our fighters, flying bomber escort as much as 600 miles into Germany, destroyed many enemy planes and inflicted severe losses among his most experienced pilots. Pilot losses undoubtedly contributed heavily to the ultimate outcome of the campaign. But the Hun would fight only over certain targets and under certain conditions, so our fighters began low level strafing attacks in order to catch him on the ground.

The point was reached in the spring where we could go after many more targets simultaneously and begin bombing whatever war industries we chose. We chose oil as the top priority. Beginning in May and continuing for three months, the joint bombing offensive against German-held oil refineries cut the overall capacity for turning out finished oil products each month. By 1 July it was cut 40 per cent, by 1 August, 49 per cent, by 1 September, 61 per cent. On the latter date the Fifteenth Air Force had cut the Ploesti and the Eighth Air Force had cut synthetic oil production in Germany 80 per cent, refinery capacity 80 per cent and had seriously damaged natural oil refineries. This was hurting the Germans badly and forcing them to use up oil reserves. The serious shortage of oil was evident in the German retreat through France, in the shortened training period for Luftwaffe pilots, and in the weakening of the Wehrmacht on every front. Innumerable intelligence reports confirmed that the oil shortage, along with the manpower situation, was becoming the dominant factor in enemy strategy and tactics, both on the ground and in the air. Many enemy divisions were virtually immobilized at critical stages of the ground fighting.

The week of 16 to 22 July afforded exceptional weather again and permitted the heaviest blows of the war by the United States Strategic Air Forces. More than 8,000 bomber sorties were flown that week and more than 6,000 fighter sorties. As many as fifteen targets were attacked simultaneously from the Baltic to the Mediterranean and from the Ruhr to Czechoslovakia. They included not only the top priority oil plants but aircraft factories which had been repaired or rebuilt since February, chemical works, ball bearings and aero engine works, tank and motor vehicle factories, the flying bomb experimental center, and railroad yards. On four days that week both northern and southern arms of the

United States Strategic Air Forces bombed in nearly perfect teamwork. On 24 August, the largest bombing force ever dispatched up to that time hit oil targets from England and Italy simultaneously—1900 heavy bombers.

In addition to strategic planning and operations, the United States Strategic Air Forces in Europe has been convenient for administrative purposes in fighting a global air war. The Ninth Air Force, although operating under the Allied expeditionary Air Force as a tactical instrument, was under the United States Strategic Air Forces for administration. Supply and maintenance organizations of both the Eighth and Ninth, supporting air operations of unprecedented size, tempo and complexity, have been supervised by the Air Service Command of United States Strategic Air Forces in Europe. Our air crews could have achieved nothing without the successful handling of their steadily increasing requirements for assembly, modification, repair and overhaul of engines, maintenance of aircraft and accessories, and the supply of parts and equipment.

The coordinated planning and operation for which the United States Strategic Air Forces in Europe was created have been achieved. It has operated continuously side by side with the supreme headquarters of General Eisenhower, and it is most gratifying that after the invasion of France the Supreme Commander sent the following telegram to General H. H. Arnold, commanding the Army Air Forces:

"The possession of an completely overpowering air force made feasible an invasion that would otherwise have been impossible—the air has done everything we asked. It has practically destroyed the German air force. It disrupted communications, it neutralized beach defenses and it has been vitally helpful in accomplishing certain break-throughs by ground forces. While all this was being done, the strategic forces have been committed to the greatest extent possible on strategic targets preventing substantial rehabilitation."

Mastering the Luftwaffe

(Continued from page 34)

heavily damaged.

That was the climax but not the end. There were other factories in operation and still more were being taken over for dispersed production. Those that had been crippled had to stay crippled. The new ones had to be found and attacked. In March the Eighth Air Force made nine attacks on German aircraft factories, and in April, 23 more. Meanwhile, having reduced their replacement potential, we went after the aircraft themselves by bombing depots from which aircraft are distributed to operational fields, and the fields where large numbers of aircraft had been seen. Our fighters also played a magnificent part in all of this by protecting the heavies and by shooting down more than four of the enemy for each loss of their own in combat, hundreds of miles from their own bases, thus destroying the Hun Air Force in being. Now, to conserve his dwindling force, the enemy often refused large scale air combat, so our fighters, in order to keep attrition above production, went down to the ground to destroy the enemy on his own fields, sometimes strafing airfields east of Berlin. In these hazardous operations they helped to reduce the Luftwaffe to its D-Day impotence and gained experience in destruction of ground targets which was to be a strong factor in Allied land operations in France in June, July, August and Sep-

tember. From January 1st to September 1st Eighth Air Force fighters and bombers destroyed over 6,000 German planes.

The Luftwaffe was not annihilated. But it was soundly defeated. The disorganization of its expansion program left Germany still with a considerable force of fighters in the West, but with a flow of replacements which could not hope to match its normal combat losses, sustained in seriously opposing daylight attacks. Thus the Luftwaffe was left with a choice between suicide and relative inactivity. They chose the latter.

In addition to this campaign against the German Air Force, the Eighth Air Force played a part in the destruction of the German oil industry. Our assignment covered Central, Northern and Eastern Germany, Western Czechoslovakia and Poland, and included many natural oil refineries as well as most of Europe's synthetic oil plants. The huge synthetic plants—some nearly three miles long—supplied much of Germany's aviation fuel. This effort began in May 1944, and by the end of August we had made 34 attacks on 11 synthetic oil plants, which had a total annual production capacity of approximately 3,900,000 tons and 40 attacks on 20 natural oil refineries with a total annual capacity of about 2,850,000 tons.

On 20 June, the Eighth struck one of the greatest single blows of the war against German war industry. More than 1400 heavy bombers were dispatched to strike 12 oil plants—10 refineries and 2 synthetic plants—ranging from Hamburg in the northwest to Politz (north of Stettin) in northeast Germany.

Each of the twelve targets was hit with good results and at least ten of them were knocked out of production temporarily.

By the end of July, the Eighth, Fifteenth and Royal Air Forces together had cut German gasoline production by an estimated 55% and lubricant production by an estimated 62%.

And there were many other strategic attacks, including destruction of Germany's largest tank ordnance depot at Koenigsborn, attacks on motor transport factories, V-1 and V-2 plants, and many other sources of German war power.

And the Eighth is proud of the direct and indirect support it was able to give the ground forces when that was required. The preparation of the beaches on D-Day—the interdiction of communications and consequent interference with the bringing-up and later withdrawal of troops and supplies—the destruction by strafing of enemy troops, supply convoys and armored columns by Eighth Air Force fighters. But that is another story.

Air Lessons for the Future

(Continued from page 22)

eral purpose tools which have low rates of obsolescence should be held in adequate numbers as a war reserve and as insurance against the unknown.

6. Government-owned airfields should be turned back to private use wherever possible.

7. The greatest encouragement should be given to commercial and civilian aviation.

These are some of the major factors in our consideration of the future. We are anxious that the public should give these matters careful and informed consideration so that the facts can be realistically faced. The past year will really have been a great one if it has indelibly impressed on us the fact that our best hope for a long and secure peace lies in remembering and applying that which we have learned.

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The Netherlands Army

(Continued from page 44)

ments in the East and West Indies.

During the Allied invasion of the Continent several officers of the Princess Irene Brigade fought in the British units in order to obtain further experience in effective warfare.

On the 5th of August, 1944, the long awaited moment came when the Brigade, under command of Lt. Col. A. C. de Ruyter van Steveninck, could begin the work of helping to reconquer her homeland. Incorporated into the troops under General Montgomery they struck at the enemy for the first time on 12 August north of Caen. On 22 August they were in combat around Houlgate.

With the Canadian Army on 26 August they passed the River Risle and helped liberate the village of Pont au de Mer south of the Seine. Continuing the advance northward, the troops reached and crossed the River Seine on the birthday anniversary of the Queen, 31 August.

At this point the High Command, considering the importance of having the Netherlands troops take part in the struggle on their own soil, routed the Brigade through Belgium in the direction of the Dutch border where it occupied a part of the front behind the Albert Canal. On 9 September at Beeringen the Brigade beat off a German counter-attack.

Meanwhile the British Second Army was able, by the use of paratroopers, to penetrate deep into the southern part of the Netherlands. The Princess Irene Brigade was hence sent to defend an important gap in this new front. It is there we find them established now, having already beaten off heavy German counter-attacks.

The Princess Irene Brigade is certainly no overwhelming force of itself, but her men are spurred on by an unwavering determination to do their utmost in their part of the great Allied offensive, their special goal being the reconquering of their homeland, which for so long has been sorely oppressed.

The Netherlands Navy

(Continued from page 44)

no relatives in the East-Indies were assigned to duties in the United Kingdom.

In the West Indies a small force of patrol craft and antisubmarine ships was maintained for the not very spectacular but highly important task of guarding the important oil shipping centers of Curacao and Aruba and the bauxite center of Surinam. As this could not be carried out by our ships alone, it was done in close and cordial cooperation with the U. S. Navy.

The arrangements outlined here proved to be very successful. Netherlands submarines continued hunting Japanese ships in the waters where they so gallantly attacked and scored in the first months of the Pacific war; the Netherlands flag was seen flying, not only from the flagstaffs of our merchantmen but also from the mastheads of our men of war at all major naval operations—at the landings on Madagascar, the landings in North Africa, the landings on Sicily, and the landings on the Normandy Beachhead.

Among the ships protecting the Forces attacking Soerabala and Padang were Netherlands ships, while a Netherlands light cruiser had the honor of being one of the first surface vessels to penetrate into the Japanese held harbor of Sabang.

Meanwhile, Netherlands motor torpedo boats, operating with their British colleagues, harassed the enemy in the Channel, and Netherlands minesweepers

played their part in keeping British ports open for Allied shipping.

The Netherlands Navy Air Force has been built up again and is operating bombers and carrier planes in the United Kingdom and reconnaissance planes in Ceylon.

About the future plans of the Navy we cannot say much yet, but the events in this war have proved without the possibility of doubt that the Kingdom of the Netherlands needs a strong navy and a well equipped Naval Air Force for the protection of her world-wide interests.

The ultimate decision about ways and means will be with the Dutch Nation, after the liberation of Holland. We know they have suffered untold hardships during the occupation of their country: their lands have been inundated, their homes and factories wantonly destroyed. But unbroken is their will to carry on the fight till the enemy is utterly defeated and peace and order reign once more in all parts of their Kingdom.

Munitions Assignments

(Continued from page 39)

able airfields supplied by the British. British forces landed on the North African coast with weapons and supplies partially supplied by assignments from American production. Many of the American troops in that same action were carried in British ships.

Of the total assignments made by the Board up to 30 September 1944, major items of equipment and ammunition valued at more than eight billion dollars went to our Allies. Of this amount almost seven billion dollars represented ordnance items. In addition, large quantities of miscellaneous supplies and equipment were assigned.

Although there is a separate Protocol Committee appointed by the President, which handles the munitions requirements of the Union of Soviet Socialist Republics, the Board is also concerned with this aspect of the munitions problem. Through a common chairman and executive officer, there is close integration between the work of the Munitions Assignments Board and the Russian Protocol Committee. In addition to the assignments made by the Munitions Assignments Board to other allies, more than \$3,177,000,000 worth of munitions were made available to the U.S.S.R. up to 30 June 1944.

Another function of the Munitions Assignments Board is to check strategic needs against realities of production. Needs in 1942 far exceeded production. At that time the Board's problems indeed were concerned chiefly with dividing scarce munitions rather than full production of munitions. The situation is different today. Plane and tank production afford an excellent illustration. From the beginning of the defense program in July 1940 through December 1941, the United States produced 23,229 planes and 4,258 tanks. In the period from January 1942 through June of this year, 185,739 planes and 60,954 tanks came off American assembly lines. The President's goal of 50,000 planes a year has been more than achieved. In the first six months of this year 51,949 planes have been built. The dollar value of munitions production has risen from \$10,323,000,000 in the defense period from July 1940 through December 1941 to the astounding figure of \$120,484,000,000 from January 1942 to June 1944.

The Munitions Assignments Board meets each Wednesday in the Combined Chiefs of Staff building in Washington. The Washington and London boards are staffed by officers of the United States and British armed forces under civilian

chairmen. United States members are Admiral J. M. Reeves, Lt. General B. B. Somervell, Lt. General B. M. Giles, Rear Adm. W. R. Purnell, Rear Adm. L. D. McCormick, Major General R. L. Maxwell, Col. E. C. Kielkopf, Secretary, and myself as Chairman. The British representatives are Admiral Sir Percy Noble, Lt. General G. N. Macready, Air Marshal Sir William L. Welsh, Captain E. M. C. Abel-Smith, and Grp. Captain T. E. H. Birley, Secretary. Lord Beaverbrook was the first chairman of the London Board but has since been succeeded by Captain Oliver Lyttleton.

Ninth Air Force—1944

(Continued from page 42)

Peninsula. Medium Bombers supported the assault on the assault beaches. Ninth Air Force fighters played a major role in establishing and maintaining air supremacy over the sea lanes and the beaches, assaulted gun positions in direct support of ground forces and interdicted rail and road traffic on routes leading into the battle area. Ninth Engineer Command began the construction of vital landing fields on the continent, the first of these being ready for operations on D-Day itself. The Ninth Air Force was discharging its full tactical mission.

It continued to do so thereafter. The interdiction program was continuously maintained along the crossings of the Loire as well as the Seine and within the area north and west of these water barriers. The enemy's ability to move troops and supplies into and within the battle area was thus reduced to a minimum. Direct support of the ground forces was developed to an unprecedented degree and in a fashion which earned the praise of our ground commanders and won reluctant tribute from the enemy. Pre-planned missions of Mediums and Fighter Bombers helped open the way for the reduction of Cherbourg in June and for the great break through west of St. Lo on 25 July. In the period of rapid advance which followed direct support of the most effective sort was rendered to the armored columns that plunged south to Avranches and then fanned out to the east and the west. General Patton was to describe it as "the best example of the combined use of air and ground troops that I have ever witnessed." In addition to constant direct support of ground movement roads congested with enemy traffic were relentlessly strafed and daylight movement rendered prohibitively costly. Artillery fire was promptly and accurately adjusted, photographic and tactical reconnaissance contributed to our knowledge of enemy dispositions and movements, and all the while the enemy was denied the use of the skies.

Supporting and supplementing this primary activity Ninth Air Force units performed a great variety of services. The transfer to the continent of operational headquarters and operational units was smoothly accomplished and their rapid movements after arrival made possible by the efforts of Ninth Engineer and Ninth Air Force Service Commands. Vital supplies of ammunition, bombs and plasma were flown in for the use of ground as well as air forces. Evacuation of wounded was early established. The complicated signal network required by an Air Force of unusual size and complex structure was effectively established and maintained.

The Ninth Air Force is entitled to regard its achievements in 1944 as substantial. It has sought to accomplish its triple mission as a Tactical Air Force. It will continue to devote its full energy to the accomplishment of that mission.



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USMC Operations — 1944

(Continued from page 25)

four hours, and Parry Island, Japanese headquarters, in 10.

Swift as was the conquest of the atoll, the Marines and Soldiers met considerable resistance from Japanese who fought until they were annihilated. The Japanese had well constructed and camouflaged holes everywhere. A small crevice in a rock would prove to be the entrance to a hole. A sack of rice was cached in or near each of these. Often small periscopes were found as a part of the enemy's foxhole equipment.

The month following the conquest of Eniwetok saw the reconstituted Fourth Marine Regiment, composed of former Raider Battalions, move into the St. Matthias Group and make an unopposed landing on Emirau Island. The operation, made 28 March, was the farthest northern penetration by Allied forces of the South Pacific command at the time.

With bases in the Marshalls secure, the Marines next prepared for the Marianas operations. The first attack, spearheaded by the Second and Fourth Marine Divisions, and followed later by supporting Army troops, was made 14 June against Saipan.

The Fourth landed on the right flank and struck for the heights of Mount Tapotchau. After beating off a tank-led Japanese counterattack 15 June, the Second pushed into Charan-Kanoa, first purely Japanese town to fall to American forces.

By 17 June, the Fourth had reached the foothills of Mt. Tapotchau, while the 27th Army Division drove for Aslito airfield, since renamed Isely Field. With the aid of tanks, mortars, and artillery, the enemy was driven back on the heights. Then the Fourth began the backbreaking climb to the crests dominating the island.

It was a battle of ridges and caves. No spot was safe to bypass lest the Japanese come crawling out on the Marines' flanks. By 24 June, the Fourth had scaled the heights of the 1,554 foot mount. Enemy troops retreated to the island's northern tip.

Meanwhile, the Second Division, after landing on the left flank, had driven for Garapan. After extremely bitter fighting, the Second captured the heights overlooking that capital city 1 July, and in two more days had driven through that city in the first house-to-house fighting of the Pacific. The fall of Garapan broke the back of Japanese resistance.

The 25-day campaign came to an end 8 July, after a final charge by 3,000 Japanese in which 1,500 of the foe were killed.

On 24 July, the Second and Fourth crossed the two and a half mile strait separating Saipan and Tinian. Resistance on Tinian's beaches was fierce, and the first night the Japs made a determined effort to drive the Marines into the water. After some 750 of the defending garrison were killed, however, the Japs retired. Thereafter the Japs retreated rapidly, confining their efforts to halt the Marine advance to fruitless night attacks, in which they lost nearly 2,000 men.

Finally, the Japs were bottled up on the southern tip of the island between Tinian Town and Marpo Point. There the Japs were subjected to a terrific bombardment by Naval and shore based guns. A little more than a week after the assault began, organized resistance ended.

The Guam assault by the Third Marine Division, the First Provisional Marine Brigade and the 77th Army Division came 20 July, after a record 17-day aerial and

naval bombardment. Opposition on the beaches, as at Saipan, was vigorous. The Marines, however, pushed immediately inland. Just before dawn 21 July, the Japanese counterattacked twice, but in each case were repulsed with heavy losses. The Marines advanced steadily. On 25 July, the American forces on Guam had advanced 3,000 yards up Orote Peninsula to gain control on the southern half. The next day, Marines and soldiers of the 77th Division linked their beachheads, cutting Guam in two. This former American possession, captured by the Japs 10 December 1941, was completely won by 9 August.

Naval Plane Production

(Continued from page 26)

of "modification centers" in which standardized planes have been readapted for use in certain zones and for certain purposes. More and more the changes are being made at the manufacturing plant itself and more planes are coming off the production line battle-ready.

The number of planes of all types produced for the Navy during 1944 (not including those received from the Army) is estimated, at this writing, as some 28,000. By 1 January 1945, the Navy should have on hand 38,500 aircraft, including those used by the Marines to support their landings, and some 50,000 trained Navy and Marine pilots. By that time also we should have approximately 100 carriers of all sizes—together an enormous sea-airfleet.

This fleet, we hope, will have but one enemy to face during 1945—the Japanese. Although there will always of necessity be cutbacks as requirements change, the end of the war in Europe of itself will make no material change in the Navy's aircraft production plans. When shifts are possible, the companies whose main business is the manufacture of civilian goods, such as automobiles and refrigerators, will be released for peace-time production, and Naval aircraft contracts will remain with the regular aircraft companies.

The cut in production, when peace comes, must leave sufficient orders to maintain the aircraft industry as an efficient machine, capable of expanding again in case of emergency. A healthy aviation industry is essential for national security.

The Campaign in Italy, 1944

(Continued from page 46)

arms against the prepared defenses, the subsequent attack and envelopment of strong points and delaying positions, the passage of demolitions and obstacles, river crossings, and the attack of towns and villages. The improvisation of specially organized task forces for pursuit after the passage of the Tiber was of particular importance in the later phases of the Campaign. The quality and effectiveness of the air support and cooperation during the long advance were outstanding in their contribution to the success achieved, and have had no comparable equal in past campaigns in this Theater. The supply operations which supported the advance of the combat elements and made possible the unbroken advance, constituted one of the major achievements of the Campaign.

The Campaign in Italy, 1944, particularly during the period of the spring offensive, demonstrated forcefully that the skillful use of all the associated arms working in close cooperation and mutual support provides a striking power that cannot be long resisted or withstood,

even in terrain highly favorable for defense. More strongly than ever has been brought out the overall lesson that no single arm or service acts as an independent agency in the conduct of its own separate operations. Conversely, the unity of action and the integrated effort of all—land and naval, ground and air, and the component elements of the ground and service forces—operating appropriately as parts of one integrated force, proved to be the deciding factor in the success of our arms.

U. S. Naval Forces Europe

(Continued from page 33)

in. In the East, the massed Red Armies march. In the Southeast, the Balkans crumble. In Italy, German strength ebbs towards the funnel of the Brenner Pass. In the West, the massed might of America, England, and France has breached the Siegfried line, while from the Mediterranean an American Army rolls up the Rhone Valley sealing off Western France, closing the Belfort Gap, and joining Eisenhower's South - Eastern flank. In the North, the stage thunder of the Quislings dies down. At sea, the life lines of the United Nations grow ever stronger. In the skies, the Nazi sees only peril.

There are still long, hard and tough tasks ahead, but:—

The blackout begins to lift from the world.

Training for Victory

(Continued from page 29)

training basically the men to lead this huge, expanding Army has been met successfully.

Reports from active theaters indicate that the special emphasis placed by Army Ground Forces upon the necessity for the component arms to be welded into a fighting team is paying dividends on the field of battle. To bring about this coordinated team in combat, units training in the United States have been required to take part in combined maneuvers and operations which required participation of units of all types.

Amphibious, airborne, mountain and arctic training have received particular attention in the training program.

Battlefield experience has demonstrated time and again that our fundamental doctrine is sound. However, new techniques resulting from the development of new materiel and conditions encountered in the various theaters of operations have necessitated an active program in producing up to date training literature. This program was accelerated in 1944 to meet the changing requirements.

By keeping in close touch with battle conditions in the various theaters, Army Ground Forces has been able to initiate the development of new materiel, to include testing and procurement of new types of equipment for use in amphibious, airborne, and other specialized operations.

The result of the efforts of all officers and men connected with the Army Ground Forces has been demonstrated magnificently by our victorious armies in the European and Pacific theaters. This army is composed of soldiers who understand what is taking place in the world—who know in their minds, as well as in their hearts, what America stands for, and must continue to stand for, and that it is their responsibility to preserve and carry on the traditions of the nation—who will undertake their military work with greater zeal to perfect themselves as soldiers—FIT TO FIGHT.

The Coast Guard After Three Years of War

(Continued from page 27)

we entered the war, there were 31,006 aids to navigation; today there are 33,600. Moreover, with the rapid technological advances in related fields, the Coast Guard is conducting experiments to adapt such advances to improved navigational aids.

Abroad and on the high seas, Coast Guard units continue to operate as integral parts of naval task forces. Coast Guardsmen are manning over 275 Navy vessels, including large assault troop transports, tank and infantry landing ships, cargo vessels, 173-foot PC boats, 110-foot subchasers and the larger patrol frigates. Many of these ships participated in the invasions of Normandy, Southern France and the several Pacific islands held by the Japanese.

A distinct function of the Coast Guard both in domestic ports and in the major foreign ports, which has been increasingly emphasized during the past year, is the system of Merchant Marine Hearing Units established and conducted by the Service. These units are charged with the investigation, hearing and disposition of cases involving incompetency or misconduct on the part of merchant marine certificated or licensed personnel. In the first six months of 1944, 4865 such cases were heard and judged. The main purpose and effect of these units have been to insure justice to the officers and men of the Merchant Marine and to expedite the operations of the merchant fleet by giving all cases an immediate trial in any major port in the world. This has eliminated the necessity of a vessel's awaiting its return to a United States port before disposing of such cases. And it has also made it possible for the men and officers of the Merchant Marine to take examinations for promotion at the first port in which their vessel docks.

In this past year that has definitely marked the war's turning point, the Coast Guard has with pride joined its forces with the Army and the Navy in pressing the attack. It has also made a concerted and not unrewarding effort so to administer those other functions which are the particular responsibilities of this Service that when peace comes, the safety and efficiency and prosperity of the American people in their commerce on the high seas will be far more advanced than ever before in history.

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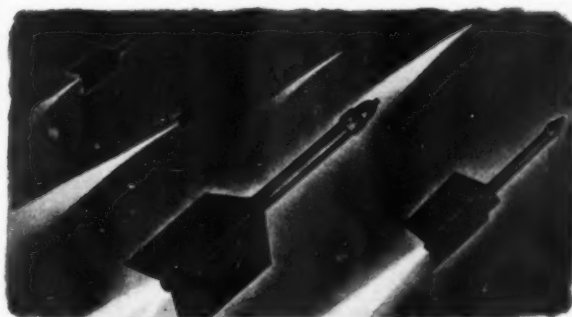
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Allied Air Forces

(Continued from page 36)

ter-attack was smashed and at that moment it can be said the battle of Normandy was won.

The main credit for that outstanding victory went to the rocket-firing Typhoons of the R.A.F. 2nd. Tactical Air Force and to the fighter-bombers of the Ninth U. S. Air Force. Swooping down on the German armoured concentrations the Typhoons and fighter-bombers smashed into the German tanks and on one day alone, 7 August, the Typhoons accounted for 83 tanks, damaged 24 others and probably destroyed 29 more.

Further havoc was wrought by the fighter-bombers of the Ninth U. S. Air Force during the next three days. German fighters attempting to get through to aid their ground forces were beaten off. Hitler's gamble had ended in disaster. The few German spearheads which succeeded in entering the Allied lines found themselves cut off from reinforcements and became easy prey for the Allied ground forces. The enemy's position was hopeless.

While this decisive battle was being fought and won the Americans were racing on with magnificent skill and dash and by 15 August had reached Chartres. Two days later the gap between Falaise and Argentan had been closed. 18 August was a red-letter day for the Allied air forces—a day which finally sealed the fate of the German ground forces in Normandy. The role allotted to the fighter-bombers of the R.A.F. 2nd. T.A.F. was to attack and destroy the encircled armies and retreating Germans outside the mouth of the Falaise "bag." The Ninth U. S. Air Force dealt blows at other targets farther east, towards the Seine.

At the end of that day the R.A.F. 2nd. T.A.F. claimed 1,159 enemy vehicles destroyed, 1,724 damaged, 124 tanks destroyed and 96 damaged. The Ninth Air Force "bag" amounted to 400 motor vehicles destroyed. These figures were an outstanding demonstration of the value of air supremacy. The enemy motor columns were driven off the main roads and compelled to seek safe passage along the lanes and side roads. There they provided the targets which pilots of rocket-firing Typhoons and cannon-firing Spitfires found easy game.

Not least of all the problems confronting the Allied Air Forces in their assault on the European continent was the carrying of supplies, particularly of petrol. Aircraft of R.A.F. Transport Command and the Ninth Troop Carrier Command were continuously employed in delivering petrol to French airfields. In the period from 9 August to 3 September more than 13,000 tons of supplies, including ammunition and petrol, were carried to France by these aircraft. On the return journey to England more than 100,000 casualties have been transported by air.

The air war has been prosecuted by a gallant company: by the Eighth and Ninth U. S. Air Forces in overwhelming strength; by all types of aircraft in the R.A.F.; by the Royal Air Forces of Canada, Australia, and New Zealand; by men from South Africa, Rhodesia and other parts of the British Commonwealth and Empire; by squadrons from the occupied countries—Poles, French, Czechs, Belgians, Dutch and Norwegians.

Magnificently led under the supreme command of General Eisenhower, they paid off old scores with a shattering interest. The wheel had come full cycle and the victims of the Luftwaffe in its arrogant heyday were avenged.

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*Record of Awards—Bureau of Yards & Docks "E", December 6, 1941 . . . Bureau of Ships "E", February 2, 1942 . . . All-Navy "E", February 14, 1942 . . . Army-Navy "E" with One star August 27, 1942 . . . Two star renewal, February 3, 1943 . . . Three star renewal, August 17, 1943 . . . Four star renewal, May 9, 1944 . . . National Safety Council "S" Award, February 21, 1944.



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Financing the War

(Continued from page 17)

rates. The average rate on Government borrowing since Pearl Harbor has been 1½ percent, as contrasted with an average of 4¼ percent during World War I. On the debt increase of \$150 billions since Pearl Harbor, the difference in interest rates amounts to almost \$4 billions annually. This is a benefit not only to the Treasury, which must pay the bill in the first instance, but also to the whole body of taxpayers. Continuance of low interest rates in the postwar period—and I see no reason why they should not continue for the foreseeable future—will maintain this saving to the Treasury, and will also be an important factor in speeding the reconversion of our industries to peacetime production.

The four principles followed in Treasury borrowing have, I believe, served well in helping to maintain economic stability behind the fighting fronts. This has not been the only purpose, however. Our borrowing plans have been shaped by the twofold consideration both of how they would help the war immediately and of how they would help in meeting postwar problems. Thus, low interest rates, liquidity of financial institutions, and a large backlog of purchasing power in the hands of consumers, will facilitate the shift of the economy back to a peacetime basis and will contribute to a continuance of full employment.

The Department of Justice

(Continued from page 18)

The Department will be charged with settling the litigation arising out of the Veterans Administration—compensation, dependency claims, and the rest—and must supervise the conduct of all lawsuits in which the Office of the Alien Property Custodian is interested.

No summary of the post-war functions of the Department would be complete without a mention of the Civil Liberties statutes. Without wishing to be unduly pessimistic, I cannot help but anticipate that the influx of transitory workers in some sections of the country, as well as the return of aliens now interned by the Department of Justice, may result in a temporary increase in the violations of these statutes. We are proud of our record in upholding civil liberties during wartime, and we are prepared to exert every energy to continue this work in the post-war period.

Department of The Interior

(Continued from page 20)

To meet this challenge the Geological Survey and the Bureau of Mines, buttressed by years of technical experience, set out to find what we had to have, and to furnish the necessary technical knowledge for rapid exploitation. Their search took them to every state in the Union, as well as to Alaska and Central and South America.

The net result was that the armed forces lacked nothing that they had to have.

Mention should be made of the intimate relationship of the Geological Survey to military operations. In close cooperation with the Army Air Forces, for instance, the Survey has produced operational maps from aerial photographs covering more than 5,500,000 square miles of the earth's surface in every war theater.

The job of coordinating the Nation's colossal program of furnishing the necessary fuel—coal and petroleum—to keep the multi-billion-dollar war industry humming also fell to the Department of

the Interior. Everything from coal for blast furnaces and home heating to fuel oil for thousands of ships and 100-octane gasoline for fighters and Flying Fortresses was our daily concern.

Despite the dwindling number of coal miners, some unfortunately distressing strikes and hundreds of other vexing difficulties, the Solid Fuels Administration for War and the Petroleum Administration for War will be able to look back with a degree of satisfaction to the fact that not a single ship put out to sea with insufficient fuel and not a single fighting plane was grounded for lack of high octane gasoline.

On the home front, of course, there have been some chilly homes and gasoline has been scarce for pleasure driving. But actual suffering has been kept to a minimum, and whatever there has been could be defined more as inconveniences than sacrifices.

On the whole, the job of the Department of the Interior has been overwhelmingly a war job. While most of its workers were in civilian clothes, 6,200 of its employees donned uniforms and are on the fighting fronts.

War Maritime Activities

(Continued from page 38)

There were, in the fall of 1944 some 179,000 officers and men sailing the 3,500 ships under control of the War Shipping Administration. Highly trained, under the gruelling conditions of ruthless warfare, these men have distinguished themselves far beyond the call of ordinary duty. Their casualty rate has been proportionately high, for more than 5,800 of them have died, been reported missing or taken prisoner. Even since the ranks have swelled to 179,000 this loss is about one in every 45 seamen now in service.

The future of the American Merchant Marine is the subject of intensive study.

There is one element that is certain. That is the determination of the Maritime Commission that the United States shall have a strong Merchant Marine able to fulfill the basic maritime policy laid down in the Merchant Marine Act of 1936. By that legislation the Commission is directed to provide and maintain a fleet of safe, fast and modern vessels able to serve as a naval auxiliary; able to carry all our domestic water borne commerce and a substantial share of our foreign trade.

The Navy's War Production

(Continued from page 24)

strategically and in a military sense will not be sufficient. The problem will be to force them to surrender and to occupy the Japanese mainland.

When these facts are understood, I cannot believe that the American people will permit the Navy's production program to bog down in complacency.

Americans have two choices: We can either let the war in the Pacific ride along in leisurely fashion, with the consequent waste of American blood, or else we can bring it to a swifter conclusion with the greatest economy in lives, by pouring it on the enemy with mounting ferocity before he can reorganize his sagging defenses.

Unless we continue here at home the tempo and determination in our work that has made our forces the best equipped in the world, I fear we may fail to capitalize fully on our present opportunity to give our enemies such a licking that they will never again be tempted to seek the domination of the world. They have unleashed total war and they must suffer total defeat.

Air Warfare in 1944

(Continued from page 23)

highways and bridges, coupled with the highly successful attacks by airborne troops landed in the rear of the enemy, resulted in a virtual blockading of the battle area. Since the unimpeded flow of supplies is imperative for any large-scale attack, this logistical isolation of the enemy forces served directly to secure our beachheads and to break through the defenses of what was known as the "Atlantic Wall."

The months of bombardment in preparation for D-day in Europe are being paralleled in the Asiatic theater. Here, the problems imposed by tremendous distances are being met by the close coordination of fighting teams of land, sea and air forces. For the first three months of 1944, for example, the Army and Navy flew over 8,000 joint sorties on operational missions in the South Pacific.

The neutralization and aerial isolation of Japanese strongholds has permitted our forces to bypass them and to advance by large leaps. How effectively distance is being narrowed, can be seen by the fact that the Seventh Air Force, based on Hawaii, advanced its operational bases more than 1,300 miles westward over a five month period. With each advance, greater areas of the stolen Japanese empire come within the range of our aircraft; allowing for differences of geography, it might be said that Japan's "Pacific Wall" is being breached, as has been Germany's "Atlantic Wall."

June 15th was no doubt an ominous day for the Japanese war lords. On that day, Yawata, on the Island of Kyushu, was the target for the first of the raids by B-29's of the newly-formed Twentieth Air Force against the Japanese homeland. This was no "token" raid; it signalled the start of strategic bombardment operations, against the Japanese, that will be maintained and intensified until the collapse of the Japanese military.

Today, personnel of the USAAF overseas numbers more than one million. The job ahead of them is clear.

The Army Chaplain

(Continued from page 104)

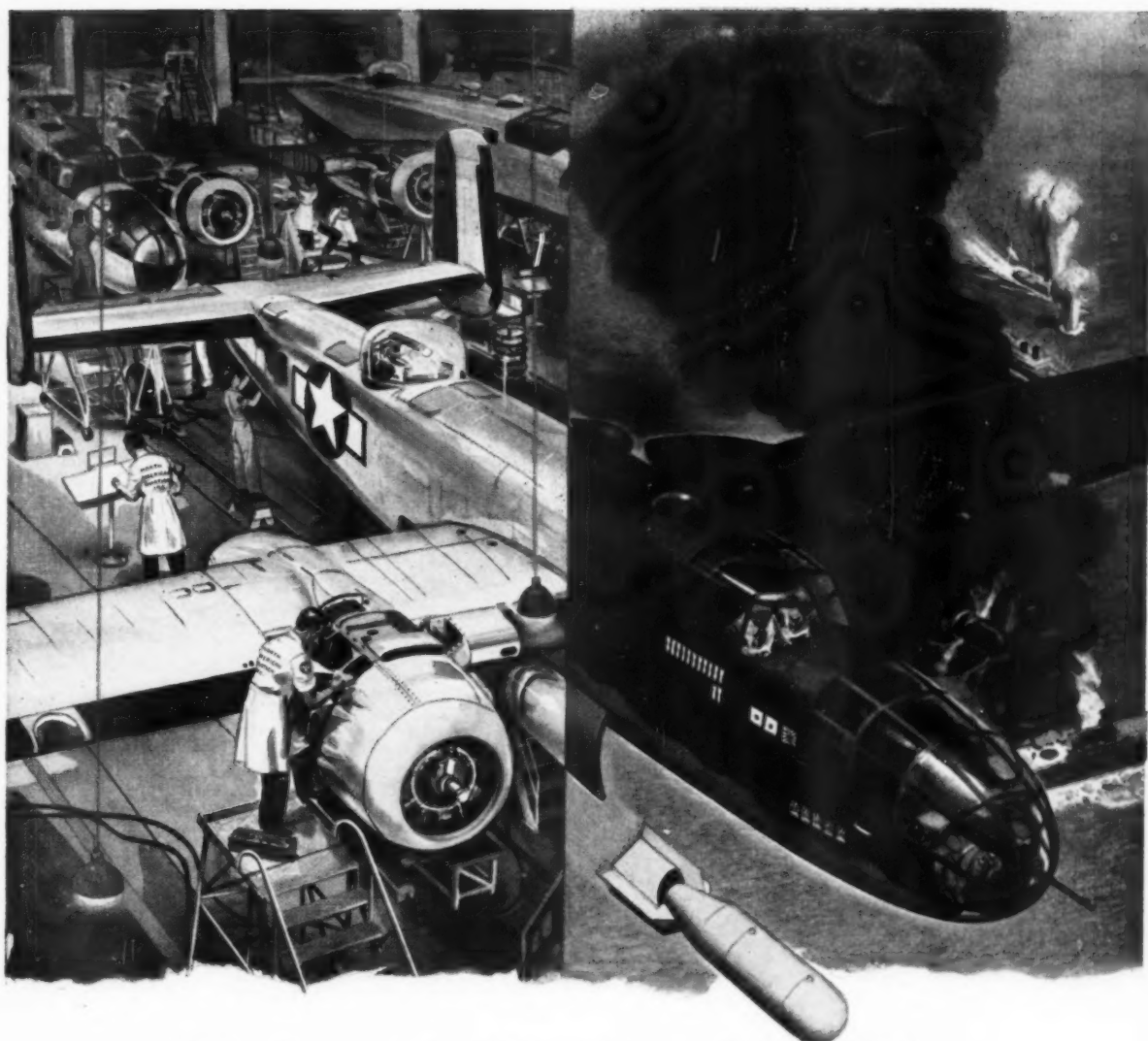
to save himself, but was killed instead. The chaplain who was hit by a shell on New Guinea as he concluded a service, the one who was shot in the back by a sniper as he administered the last rites to a dying man on Makin Atoll, the one who stepped on a land mine in Italy while looking for the dead and wounded and lost his leg, the one who lost his life when shrapnel caught him in the chest as he cared for the wounded in Tunisia, the chaplains who went in with the initial landings on the French coast—all sacrificed themselves out of love for God and their fellowmen.

The Navy Chaplain

(Continued from page 104)

are accompanied by the clergymen our churches have provided to minister to the personnel of the Navy, Marine Corps, and Coast Guard. They take with them the gear necessary to administer the sacraments according to their individual faiths, and they attempt to provide religious literature for those who desire it, Testaments for those who seek the comfort and strength of the ageless words of faith.

Our men and officers and their families have demanded a practical and yet soul satisfying religion in wartime. They will not accept less in civil life.



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On the production front, as on the battlefield, “North American Aviation Sets the Pace”—a killing pace for the Axis!

Trained employees accompany our planes to the battle zones. Their reports are added to suggestions from our engineers, test pilots, plant workers—and North American planes come off the lines better...sooner.

That’s just another reason our nation can build Billy Mitchell bombers, Mustang fighters and Texan combat trainers...planes that are better than the best of the Axis brood.

Partners today...as we out-produce, out-fight the enemy. Partners tomorrow...as we build our new world for free men.

North American Aviation *Sets the Pace*

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